The Independent Magazine

November 1985 Vol 2 No 8

The Australian Apple Review

The Apple IIc - an under-rated machine

Mouse-driven programs for the Apple II

Buying a second-hand computer

Appleworks - using the Database

Diskette Organisation

Do's and Don't's of Computer Use

NEXT HOME ENTERTAINMENT REVOLUTION?

Win over $500 in prizes

Registered by Australia Post Publication No NBG 6313
*Recommended retail price

Fine quality software and hardware for your Mac, // series & XL (Lisa)

ViViVidex™

Mail Center™ TimeWand MacCalendar

MacCheckers, FunPak, Reversi, MacGammon, MacVegas, Lisa Desktop Calendar, MacCribbage

PSIO card, VideoTerm, UniPrint card, UltraTerm, Enhancer II & the Function Strip

Quality and Reliable Mass Storage

Quark™ INCORPORATED

Increase your productivity, creativity and speed with the QC10 (10 mb) and QC20 (20 mb) hard disks for your Macintosh, //e, //c and ///. Plugs into the floppy port and is easily configured.

ikon distribution

call for info and your nearest dealer

☎ 02-692-9293

Music on Your Macintosh

Bach g minor Total Music DX7 Voices

Total Music is the finest, most powerful and easiest to use MIDI package available today. True mainframe power at your fingertips and we don't give praise lightly!

MIDI Player MIDI Writer Inst. Maker

With ConcertWare+ MIDI and the MacNifty Keyboard your Macintosh is a four voice synthesizer suitable for the home or the classroom. Music for the rest of us.

Aztec C 68k and c-tree for serious programming & DBMS

My Office LaserBase MANAGER

easy, flexible & powerful databases

FONTastic **Font editors for the Imagewriter & the LaserWriter** Fontographer

Magazines & Books

MacTutor * MACazine * MacMag * Softspot
Mac Buyers Guide * NibbleMac * Shatter
MacUser * Nibble * The C Puzzle Book
One Flew over the Quickdraw's nest
Complete Macintosh Sourcebook
C Programmer's Library

The Australian Apple Review

The Independent Magazine

November 1985 Vol 2 No 8

The Australian Apple Review

The Apple IIc - an under-rated machine

Mouse-driven programs for the Apple II

Buying a second-hand computer

Appleworks - using the Database

Diskette Organisation

Do's and Don't's of Computer Use

NEXT HOME ENTERTAINMENT REVOLUTION?

Win over $500 in prizes

Registered by Australia Post Publication No NBG 6313
*Recommended retail price

The Australian Apple Review
Top Rear, 4 Carrington Road,
Randwick , NSW 2031
Phone (02) 398 5111

Published by
Saturday Magazine Pty Ltd

Editor: Gene Stephan

Publisher: Gareth Powell

Advertising:
Ric Richardson (02) 398 5111

Production: Brenda Powell

Subscriptions, back issues:
Tina Spathos (02) 398 5111

Distribution: NETWORK

Vol 2 No 8 - Contents

2. **EDITORIAL**

3. **BITS AND BYTES** - all the latest news

5. **THE APPLE IIc** - an under-rated machine?

8. **DISKETTE ORGANISATION** - DOS's volume table of contents and directory.

11. **MOUSEWARE** - at last, mouse-driven maturity for the Apple II - MouseWord, Mouse Budget and Mouse Calc

18. **APPLEWORKS - USING THE DATABASE** to print a numerical synopsis

23. **THE NEXT HOME ENTERTAINMENT REVOLUTION** Music workshop

28. **THE FUTURE: APPLE AND THE MUSIC INDUSTRY** Interview with a Roland representative

31. **WIN $500 OF MUSIC PRIZES**

32. **SECOND HAND COMPUTERS** - Genuine one careful owner, fully serviced with log books - going cheap!

38. **DO'S AND DON'T'S OF COMPUTER USE** - looking after your Apple

45. **DON'T PANIC - HITCHHIKER'S GUIDE TO THE GALAXY** - game review

46. **PLUS-WORKS** - Making Appleworks earn its living as an integrated program

47. **WORM IN THE APPLE** - the view from below

Editorial

ONCE MORE it is back to the old grind.

Our editor of over one year's standing, the amazing Gene Stephan, has decided the time has come to move on to fresh fields and pastures new and so, once more, I am the editor of this august journal.

Which means there will, inevitably, be some changes.

I am not, as is perhaps well known, over-enamoured of *Wordstar.* Likewise CP/M does little for me when used with the Apple although I totally accept its virtues when used in other circumstances.

> **"Ask not what you can do for your Apple, ask rather what your Apple can do for you."**

True, we will still be carrying articles about these arcane and, to some, outdated operating system and its attendant programs. But not to the exclusion of real news.

We will be concentrating rather more on Apples in the real world, working on the basis of ask not what you can do for your Apple, ask rather what your Apple can do for you.

Sadly the Worm in the Apple will still be with us.

All efforts to kill off the malicious, meretricious and mendacious monster have failed.

And no doubt the magazine will still contain errors. Not fatal errors. Not heart stopping errors. But errors nevertheless.

Please understand, this magazine is a labour of love.

Despite what any of you have thought, it has never made a profit since the day it started. And I have me doubts it ever will. But as long as it is read by the sort of Apple enthusiasts who also write for it, then I will be a happy lad and willingly subsidise it from the salary I earn as computer editor of the *Sydney Morning Herald* and sundry other newspapers.

One of the reasons why I continue with the magazine is I am in love with computers - and besotted by Apple computers which are, for my money, the best personal computers ever made. Sure there have been hiccups in their stately progress - remember that even Rolls Royce went bankrupt once - but that is to be expected in any organisation. The fact remains that from choice I use an Apple. And I probably have greater access to more different kinds of personal computers than almost anyone in Australia.

I have just sat down and worked out what I get paid for writing for this magazine. As far as I can gather it makes me the lowest paid journalist in the world with the exception of two sub-editors working in Lower Burundi.

Being editor of the *Australian Apple Review* is truly a labour of love.

Now Gene Stephan has left, the tents are folded, and the caravan moves on. But the magazine remains the same.

Like the poor, it is always with us. We hope you stick around to enjoy the ride.

Gareth Powell

DIRECT SUBSCRIPTION

Make sure of *your* copy of The Australian Apple Review

Please enrol me for . . . . . .issues subscription to the Australian Apple Review,
commencing with the . . . . issue.

I enclose a money order/cheque for . . . .
OR my Bankcard number is . . . .

Name: . . . .
Address: . . . .
. . . . Postcode. . . . .
(please print in BLOCK letters)

Rates within Australia
Subscription rate for 6 issues $18.00
Subscription rate for 12 issues $36.00

The Australian Apple Review
Top Rear, 4 Carrington Road,
Randwick, NSW 2031.

Phone: (02) 398 5111

Bits and Bytes

Apple refocuses on offices

The *New York Times* is what is known as a paper of record. Normally, if it runs a story all the details are correct because they have been double-checked. The following story is therefore spot-on and will no doubt be of interest to all our readers:

Apple has announced that it has regained its footing after the most tumultuous year in its history, and has outlined a plan to integrate its products in an "IBM-defined world" of computer systems.

The company said the move marked a broad refocusing that some Apple officials conceded would concentrate less on flashback technologies and more on making machines attractive to businesses.

In a presentation to Wall Street analysts last month Apple also predicted that its restructuring earlier this year would allow the company to report "significantly stronger" earnings in the fiscal year 1986 than in 1985.

"I think that the big news is that Apple is doing far better today than many people, even people inside Apple, thought possible five months ago," John Sculley, Apple's chief executive, said in an interview. "We're a lot more pragmatic today."

Company officials also hinted that they were looking for ways to settle their bitter lawsuit against Steven P. Jobs, Apple's co-founder, who was forced to resign as Chairman in September after he organised a group of Apple employees to start a new computer company.

"From a public relations viewpoint, the suit is not a good position to be in," said Albert A. Eisenstat, Apple's general counsel, "if we can find a way to protect the company, a settlement is always a possibility."

For Apple, this announcement marked the third time in less than two years that the company has said it would integrate its Macintosh computer into offices, IBM's traditional stronghold. A series of false steps, however, including the failure to bring several communications products to market, have kept the company from breaking into the most lucrative niche of the industry. Company officials and analysts, however, agreed that this time Apple had a better chance of success, assuming it avoided a direct confrontation with the world's largest computer maker.

"It looks like they are now far closer to actually being able to implement their plans," said Esther Dyson, editor of Release1,0, an industry newsletter, "the spirit was always willing and now the flesh is coming around."

Mac to improve connections

The key element of Apple's new strategy, Sculley said, was a commitment to work with outside vendors - mostly software houses - to design programs to connect Apple's 22-month-old Macintosh to mainframes and minicomputers. Several companies have tried to work with Apple in the past, but they reported that the company was suspicious of outsiders' technology and unwilling to disclose key technical details about the Macintosh's design.

"That was a mistake, and we are becoming far more open," Sculley said, adding that the company would draw on "a wealth of technical talent outside Apple" to design new communications products that would be rolled out over the next year and a half.

"I think that in the past we tended to oversimplify the problem of communications. We tried to impose some solutions on our users. Now we have a handle on it, and a realistic description of what our customers want to do with our computers."

Two roles for Mac

Sculley's plan, first outlined in a speech to computer dealers in Dallas, envisions two distinct uses for the Macintosh.

One is as a stand-alone personal computer that has already enjoyed considerable success among students, artists and others who need its graphics capabilities.

The second role will be as a fairly easy-to-use terminal for larger systems, mostly minicomputers and mainframes made by Digital and IBM. Jobs generally opposed using the Macintosh that way, arguing that it was a waste of the computer's powers.

But Apple officials say that business users insisted on easy connections to the larger machines already installed in their offices. "We're committed to building the third leg of our business," Sculley said, describing the first two as "the home and education markets". "To get there, we simply must have systems solutions in business and education by 1986."

Apple insiders note, however, that many company engineers are chafing at the thought of spending their time working on ways to connect the Macintosh to other systems. "It's not what a lot of us came here to do," one Apple designer said. "We came here to build the next great computer."

Eisenstat conceded that "It takes a different breed of animal" to work on the communications problems, "but I think we are ready to do that."

Stronger financial results

Sculley's predictions of stronger financial results came as no surprise to analysts, who noted that the company had reduced its size, planned to increase research and development spending by 50 percent and would increasingly focus on sales to the government and international accounts.

BBS for Sydney Mac users

Gary Clarke of Imagineering software is setting up a bulletin board for Macintosh users, as part of his company's service.

The bulletin board will provide up-to-date information of interest o Mac users, allowing them to transmit and receive messages from other Mac users, and enabling them to "down-loard" programs from local or international databases.

Gary Clarke is using a Corvus 20 Megabyte (B) hard disk to support the bulletin board, and is very happy with the reliability of the equipment.

Users of the BBS will become involved in what many consider to be the most exciting future area for computers, that of communications.

The bulletin board will operate 24 hours a day - the Mac and the Corvus never sleep.

For more information on how to plug into Imagineering's Mac bulletin board, contact Gary Clarke at: (02) 662 4499.

Sybiz Shopkeeper

A new package from Sybiz Software (which produces integrated accounting software for small to medium sized businesses) called *Sybiz Shopkeeper* is designed to help the managers of retail stores deal with stock control and accounting problems.

It will run on a 128K Macintosh sitting on a cash drawer and coupled to an Imagewriter printer. No external disk drive is needed.

By keeping a record of every stock item and then a record of its sale, *Sybiz Shopkeeper* provides an effective but simple stock control system while simplifying retail transactions. It enables production of up-to-date sales and stock reports whenever required.

For information contact Sybiz Software's head office in Adelaide on (08) 333 0988, or in other states, Sydney (02) 957 6838, Melbourne (03) 419 9909, Perth (09) 367 8277, Brisbane (07) 832 3688.

right: Sybiz Shopkeeper with 128K Mac

Corvus Network Transporter

Recently launched was the CORVUS Macintosh Omninet Network Transporter, which will allow Macs and Apple IIs and other computers to connect to the same network.

Using the Transporter, a wide variety of different marques of micro computers can be linked to Omninet, giving their users the ability to share the mass storage of the CORVUS OmniDrive and permitting inter-communication between the micros.

For further information, Julie Livermore at Horizon Computer Corporation, (02) 498 6611.

Halley's Comet

Writer's Press Publishers have sent us a copy of a book called *Halley's Comet over Australia* by Brian Greig, $3.98, 56 pages. This contains, besides a plastic star chart, cut-out space mobile and theodolite, computer programs for the Apple detailing how to find the comet, the best time of day to look using a telescope from any place in the world, and the comet's path through the solar system.

Sendata 3 in 1 Modem

Sendata have developed, and are now marketing, a modem that can be used on all known databases because it operates at any of the 300 or 1200 or 75TX/120AX speeds.

As an introductory offer, the all new Sendata 3 in 1 Modem is available for $920 on orders received before 20th December 1985.

For further information contact Sendata Pty Ltd, 11 Stamford Road, Oakleigh 3166.

Telephone (03) 568 6299 - John Chalmers, or (02) 438 4255 - Maria Busutti.

Preventing static electricity

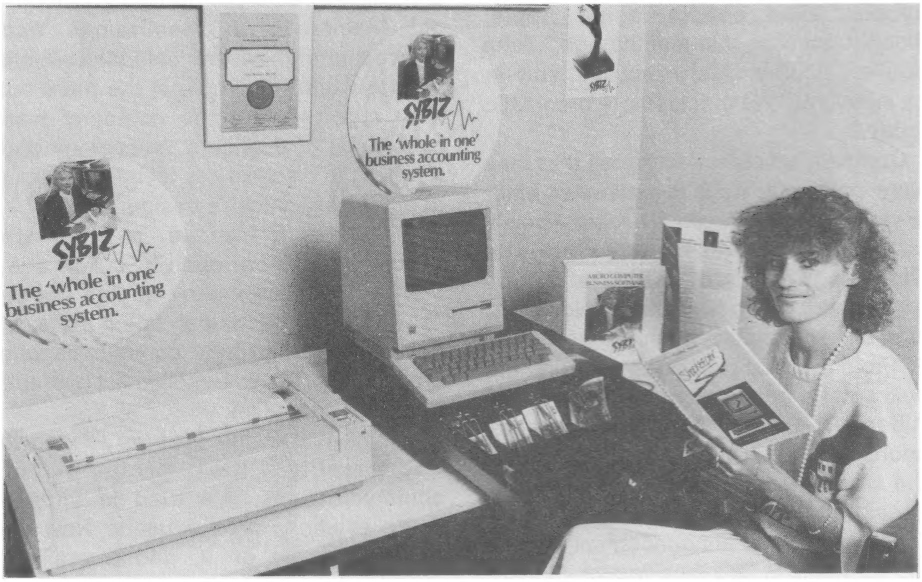
Static electricity can cause all sorts of computer malfunctions - see the article in this issue *Do's and Don't's of Computer Use.*

Sylex Desktop Stat Mats have been designed to sit under either keyboard only or keyboard and monitor. Static electricity is then dissipated through the pad instead of through the computer.

The mats are made of soft durable vinyl which reduces vibration and makes keying more comfortable.

A 3 metre long grounding cord snapped to the mat and grounded to an earthing point is the only installation required. The grounding cord with a built-in one megaohm resistor is included.

For information (02) 647 2888.


SYBIZ
The 'whole in one' business accounting system.
SYBIZ
The 'whole in one' business accounting system.

The Apple IIc - a vastly under-rated machine?

WE HAVE NEVER published a complete account of the Apple IIc for reasons that quite escape us for the moment. This is a major omission and one we now hasten to correct.

In a sense, the IIc has been a disappointment to Apple as far as sales are concerned. Possibly because it was never as aggressively promoted as the Macintosh nor enjoyed the army of fanatical fans who have always supported the Apple IIe.

Or there may be other reasons. We can guess at three. One is a lack of open architecture to allow owners to modify their machines to precisely fit their needs. The second is the IIc is not a lap computer within the meaning of the act. Simply because it needs an outside power source to perform. Thirdly, the liquid display screen which is offered as an optional extra is, beyond peradventure, the worst liquid display screen in the world - and there is no liquid display screen in the world that should be sold without a white stick and a seeing eye dog as an automatic extra.

"The IIc is a wonderful machine which is consistently underrated"

But, having said all that, the IIc is a wonderful machine which is consistently underrated - not least by the sales staff of Apple themselves, who appear to be either Mac-crazed - not in itself a bad thing - or Apple II fanatics of the old school who believe that any variation from the true creed is to be frowned upon.

When the IIc was first announced in early 1984 John Markoff, then senior technical editor of *Byte* magazine, said, "The IIc is what Apple Computer refer to as a "focussed product". It is designed to fit into a market niche that places it in head-on competition with the IBM PC Jr at the higher end of the home computer market."

We all know what happened to the IBM PC Jr. In which case it could be said that the IIc had won the battle of the market place. Plainly it has done nothing of the sort.

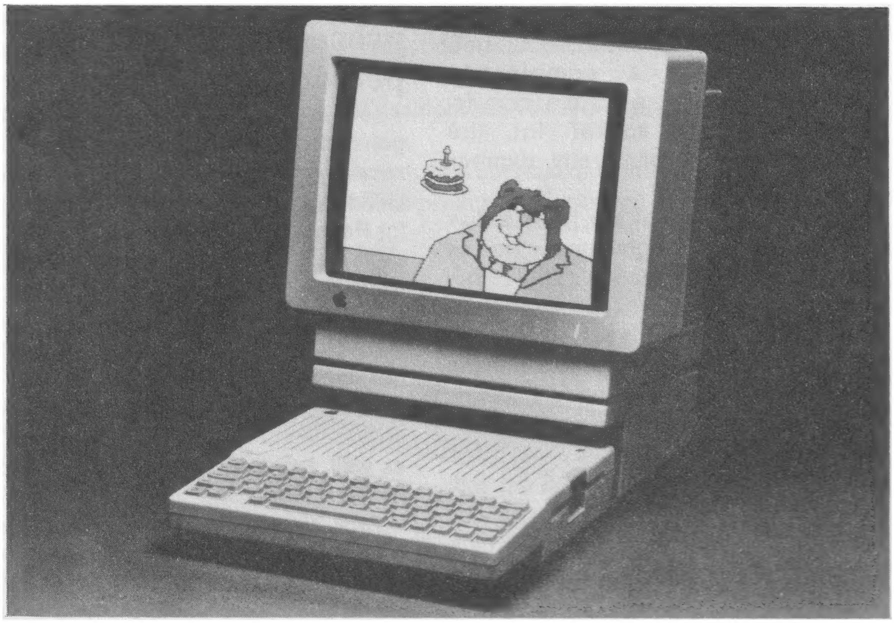
OK. We like the IIc. In many ways we prefer it to the Macintosh and we believe that if Apple in Cupertino would remove their respective fingers they would have a machine with a sales potential to astound and delight them.

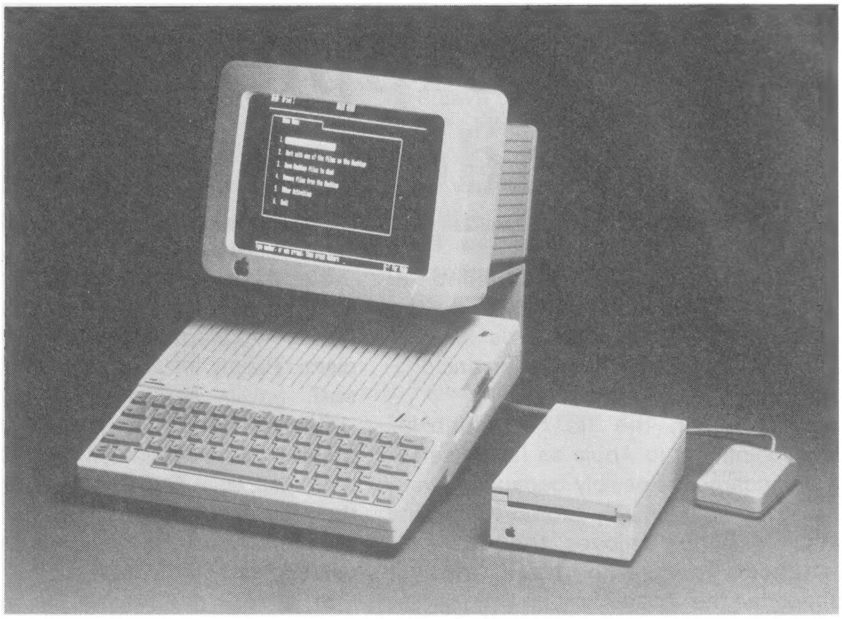
In a very real sense the IIc is an evolutionary machine - not a revolutionary one. For example it uses almost the same 6502 chip as the standard IIe. However, this is a CMOS based chip - the initials stand for complementary metal oxide semi-conductor, a phrase that was on the tip of your tongue but you had forgotten it just for the moment. This chip is the kissing cousin of the one used in the IIe except it had, when announced, 27 new instructions built in. The story is these are now automatically included in the IIe although we have never yet tested a machine so equipped.

The IIc is, of course, totally different in design from the IIe. The design was the responsibility of a German design group called, almost unbelievably, 'Frog', who started from scratch and came up with a machine of surpassing beauty. The lead designer was Hartmut Esslinger who was also responsible for the Sony Walkman. The new, lighter colour of the machine is called 'Apple Fog' - the project was originally code named 'Snow White' - and that colour and that styling has been reflected in almost every new product from Apple ever since.

"A keyboard which is an absolute delight for a touch typist to use"

The Apple IIc is very different in feel and looks from the IIe. First the individual keys are dished and travel less than half the distance that they do on a standard Apple. The result is a keyboard which is





Apple IIc with the 800K Unidisk 3.5" and Apple Mouse II.

an absolute delight for touch typists to use. The same is not true of the keyboard on the IIe. On that machine both the operation of the keys and the positioning of the space bar are something less than felicitous.

At the back of the IIc is a carrying handle which gives the totally spurious impression that this is a truly portable machine. As explained earlier, it is nothing of the sort. But the handle folds down to tilt the keyboard to precisely the right angle for high speed typing - a neat touch.

The IIc is sold with 128k of memory built in but is, at least in theory,closed architecture so that it is impossible to add the most common add-on goodies of them all - the C/PM board with its Z80 chip allowing the happy user access to the wonders of *Wordstar.* As constant readers of this magazine will know there are already two boards in existence which happily ignore the limitations of the closed architecture and let you merrily insert C/PM inside the machine.

> **"Almost every conceivable socket you would ever need."**

There is no doubt Apple gave it the old college try in making the architecture closed. They stuck on the back almost every conceivable socket you would ever want or need. Would you believe two RS 232 ports, two video ports, an external drive port and a combination joystick/mouse port, a 15 pin plug for video, an RCA sccket for the monochrome monitor. Pretty damned comprehensive.

Built into the side of the IIc is a disk drive. This is a half height number built by ALPS and is perfectly satisfactory except that you only get 140K on the disk. This is perfectly satisfactory with the IIe and perfectly manageable with the IIc, but how much better the machine would have been with a Sony 3.5 inch drive set up to run with, say, 800K on each disk. This is what Toshiba did with their T1200 and the result is you can carry a word processing disk which contains the program and still has room for 600k of text.

Plainly the designers could easily have managed this. After all they reduced the number of chips inside to an amazingly low 23, which is some world's record in miniaturisation. Worth recording one of them is called IWM because it is, in effect, the disk controller and so they have honoured the genius who originally designed and assembled the Apple disk controller over one memorable winter's weekend. IWM stands for Integrated Woz Machine. Wozniak must be pleased.

The machine itself works magnificently as a standalone word processor and general personal computer. Ours was recently used by an author, Arlene Levinson, who used it to produce a book for Penguins. It never skipped a beat. We set it up for her with *Zardax II*, especially written for the IIc by the young and lovely Ian Phillips, and after half an hour's instruction she just sat down and wrote her book. She is now under the firm and deluded idea that all computers and word processing programs work as easily and as well. Let us hope no sadist ever zaps her with *Wordstar.*

> **"It works magnificently as a standalone word processor and general personal computer"**

Can the Apple IIc be improved? Immensely.

The 800K Apple Unidisk external drive was a good start, although 800K internal would be even better.

Next they can build in a modem. This will take up a minimum of room, can be CCITT and Bell and can cover, at the very least, 300, 1200/75 and 1200/1200 baud rates. More would be gratefully received.

Next, the machine can become truly portable by building in nickel cadmium rechargeable batteries which, important this bit, must be penlight size and can, in an emergency, be swapped for ordinary penlight batteries bought from your local corner store.

Next, the LCD screen should be sent to the great computer scrap heap in the sky and a portable, self-powered television be used instead. Sinclair produce one that works perfectly well in 40 columns. As does Tandy and a score of Taiwanese, Korean and Japanese manufacturers. In the 40 column mode these are as sharp as a tack - and are perfectly usable in 80 column mode.

> **"Next they can build in a modem. This will take up a minimum of room, and can be CCITT and Bell"**

If all these things were done we would have in the Apple IIc probably the greatest portable computer in the world. And let no buffoon in Cupertino tell me that it cannot be done.

Businessmen & Hackers finally see eye to eye on printers.

Businesspeople will welcome it as a new price break-through in near letter-quality printers. Hackers will welcome it as a whole new standard in low-cost printers.

On appearances, you'd never suspect it was a low-cost printer. And when you see its superb, near letter-quality printing, you'll find it hard to believe that the recommended retail price (excluding sales tax) is under $440!

The Epson® "NLQ Special" gives you so much more than you've learned to expect from a printer in this price range.

It offers superb, near letter-quality printing in a variety of type styles and sizes.

It prints up to 100 characters per second, and includes a 1024 byte input buffer which reduces the time your computer is tied up during printing.

It produces charts and graphics with a crispness and definition that's seldom been seen on a printer in this price range.

It comes with standard friction feed, optional tractor & cut sheet feeders, and uses standard interfaces.

In its GX-80 configuration, it emulates Commodore, Apple and IBM printers and operates directly with these computers without modification.

In LX-80 configuration, it offers a variety of built-in word processing functions – so you can produce professional-looking documents even without word processing software – and is compatible with almost all other computers.

There is so much more to the Epson GX-80 and LX-80 that you won't find on other low-cost printers. Call in to your nearest Epson dealer and see what's so special about the "NLQ Special."

The "NLQ SPECIAL" by EPSON AUSTRALIA

Epson Australia Pty Ltd, 3/17 Rodborough Road, Frenchs Forest. Sydney (02) 452 5222. Melbourne (03) 543 6455. Brisbane (07) 832 5400.

®Registered Trademark of Epson Corporation. EPS0051/R

Diskette Organisation

by Steven Waring

WHEN DISKS ARE initialised from an Apple computer several things happen. These are;

1. Thirty five tracks are created. Track 34, closest to the central hole stretching in numerical order back to track 0, at the outer edge of the disk (see diagram). If you look closely at a disk you can see concentric circles around the disk. This is caused by the disk being burnished (smoothing the disk) and is not in fact the tracks which are magnetic and invisible.

2. It also marks these tracks into 16 sectors with Dos 3.3 and 13 sectors with Dos versions before Dos 3.3. A sector the smallest amount of information which can be written to or read off the disk (see diagram).

3. It also puts Dos on the first three tracks.

TRACKS/SECTOR NOS	MEMORY ADDRESS
T-O,S-O TO T-O,S-9	$B600 TO $BFFF
T-O S-12 TO T-O,S-15	$9DOO TO $A100
T-1,S-O TO T-1,S-15	$A100 TO $B100
T-2,S-O TO T-2,S-4	$B100 TO $B600

The above refers to machines with 48K.

4. For Dos's housekeeping purposes it forms a volume table of contents or a VTOC and a DIRECTORY. The VTOC and the DIRECTORY will be the major topics for the rest of this article.

5. The hello program you initialised is copied onto the disk starting at track-18 sector-15 building down to sector-14 then 13 according to how long it is.

NOTE - ALL NUMBERS FOLLOWING WILL BE IN HEX (SEE PAGE 40 OF REFERENCE MANUAL FOR A DESCRIPTION OF HEX). NUMBERS SURROUNDED BY <> ARE IN DECIMAL.

Examining DOS's VTOC

The VTOC is found on track <17> sector <0>, (see diagram 1). The VTOC's main feature is to tell DOS where free space is on the disk. The VTOC is the backbone of the disk and is often referenced during disks operations.

If you are going to examine one of your own disks, then you need a disk zap utility. If you don't own one I have provided examples with this article.

Refer to sector listing 1. The far left hand column is only there, so we can refer to individual bytes, in this article. It is not found on the disk.

DOS's permanent records

Byte 00 has no significance.

Byte 01 is the track number of the first directory sector (more on this later).

Byte 02 is the sector number of the first directory sector. Together with the byte before they provide a pointer to the directory (usually they are 11 and OF <17,15 dec> respectively)

Byte 03 indicated DOS version number. This is 03 for DOS 3.3.

Bytes 04-05 are not used.

Byte 06 is the disk volume number. This can take any value between 1 and FE (if you dont specify a volume number then this byte defaults to FE<254>.

Bytes 07-26 are not used (all 00).

Byte 27 is the maximum number of track/sector pairs allowed in a track/sector list (more on this later) usually 7A or <122>.

Byte 28-2F not used.

Bytes 30-31. The DOS manual is incorrect in what it states about these two bytes. It says that these two bytes and the next two 'Are a mask for the track bit maps, each bit enabling one of the 16 sectors to be used in every track' - This is complete garbage. Byte 31 has the value FF or 01. DOS adds byte 31 onto byte 30 to give it the next track whose allocation will be attempted. (FF is taken as -1, 01 as +1).

Bytes 32-34 are not used.

Byte 34 is the number of tracks on the disk, usually 22 for <35> tracks.

Byte 35 is the number of sectors per track usually 10 for <16> sectors.

Bytes 36-37 contain the number of bytes per sector, they are respectively 00 01. In Apples the highest byte of an address is placed after the lowest one so 00 01 becomes 01 00 or 100 or <256). So there are <256> bytes in a sector.

DOS's scratch pad area

Bytes 38-C4 are devoted to the disks bit map. Each track is donated four bytes, but, Dos only use the first two (the next two are both 00. A bit map shows which sectors are being used and which sectors are free so that DOS knows where to put the programs on the disk. Of course each time you save or delete a program the the bit map changes accordingly. You have for instance the bit map F3 5A.

F = 1111 E = 1110 D = 1101 C = 1100 B = 1011
A = 1010 9 = 1001 8 = 1000 7 = 0111 6 = 0110
5 = 0101 4 = 0100 3 = 0011 2 = 0010 1 = 0001
0 = 0000

Using this table which is the individual hex digits unpacked into binary F3 5A turns into;

```
        sector no FEDCBA9876543210
         hex digit   F    3    5   A
  unpa cked to bin 1111001101010 11010
```

A '1' tells you that the sector is free and a 'O' tells you the sector is used. From this you can see that sectors F,E,D,C,9,8,6,4,3,1 are free while sectors B,A,7,5,2,0 are being used.

Because DOS fills sectors in progression you usually see F's,7's,3's,1's and 0's respectively 1111, 0111, 0011, 0001, 0000.

Dos starts storing the bit maps at byte 38. I will go over the start of the provided VTOC's bit map.

At bytes 38 and 39 there is 00 00. When unpacked it comes out as all sectors being used. This because DOS occupies track 0. Bytes 3A and 3B are also track 0 bit map but they are unused.

```
T1 Bytes 3C 3D 3E 3F are 00 00 00 00 -DOS (allsec.used)
T2 Bytes 40 41 42 43 are 00 00 00 00 -The same as above
T3 Bytes 44 45 46 47 are FF FF FF FF -All sectors are
                                      unused
T4 Bytes 48 49 4A 4B are 00 01 00 00 -sector 0 unused
T5 Bytes 4C 4D 4E 4F are 1F FF 00 00 -only sectors
                                      F,E,D are being used.
```

The rest of the tracks bit maps are stored as above.

Bytes C4-FF are unused.

Examining the Directory

The directory is also found on track $11<17> like the VTOC. While the VTOC is found on sector 0 the directory is found on a number of sectors each pointing to the next one. The directory is like a table of contents in a book, it tells you where you can find various programs. The first directory sector is found on track-$11<17>, sector-$F<15>. The next is found on <17,14> then <17,13> until <17,1> which is the last directory sector.

The housekeeping area

At the start of a directory sector certain information is stored. I will step though this byte by byte.

Byte 00 - unused

Byte 01 and 02 are respectively the track and the sector numbers of the next directory sector. This is the place to change if you want the following directories on another track or sector. They are both 00 if it is the last directory sector.

Bytes 03 - OA are unused.

File entries

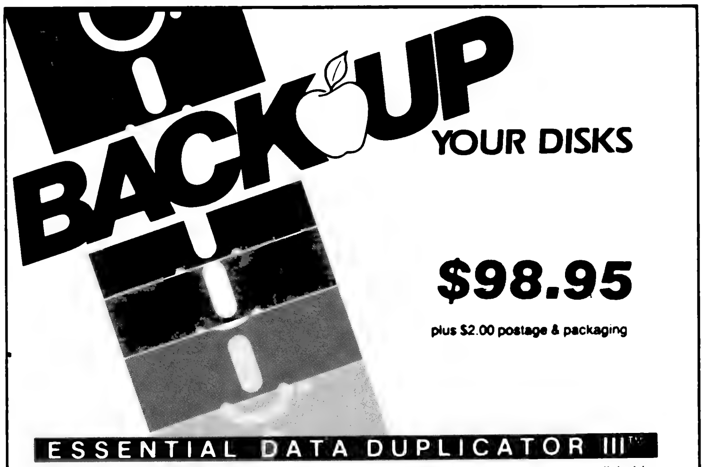
The directory sector is then divided into 7 groups of $23<35> bytes. Each group contains information which appears on the catalog. I will step through the first group in the directory sector provided.

Byte 01 and 01 (this refers to the bytes relation in the group) is the track number and sector number of the first sector of the program BAT AND BALL. It is not the first sector of the program but in fact points to the track/sector list which is a list of the pairs of tracks and sectors occupied by each particular sector.

Byte 03 is interesting, it in fact holds a code which tells DOS what type of file it is. Possible codes and their meanings are found below:-

TEXT = 0
INTEGER = 1
APPLESOFT = 2
BINARY = 4
S-TYPE = 8
R-TYPE = 10
ADD '80' TO THE ABOVE IF THE FILE IS LOCKED

(*continued on next page*)



$98.95

plus $2.00 postage & packaging

ESSENTIAL DATA DUPLICATOR III™

EDD runs on Apple II, II plus, IIe, IIc and Apple III (in emulation mode) using one or two disk drives.

EDD allows you to easily and quickly make back up copies of your "uncopyable" Apple disks.

Since EDD has been preset to copy the widest range of copy-protections possible, you just simply boot up EDD, put the disk you want to copy in one disk drive and a blank disk in the other (EDD will work using one drive also) and in about 2 ½ minutes a copy is made.

Unlike the "copy-cards" which only copy "single load" progams, EDD copies the entire disk.

This would be similar to hooking up two cassette recorders, playing from one, and recording to the other.

We have even included an option so you can check the speed of your disk drives because drive speeds running fast or slow can damage disks and cause other problems.

We publish EDD progam lists (information about copy-protected disks) every couple of months, which EDD owners can receive. The current list is included with the purchase of EDD.

The bottom line is this; if EDD cant copy it, chances are nothing will.

Warning: *EDD is sold for the sole purpose of making archival copies ONLY.*

To order your copy send cheque or money order to UTILCO SOFTWARE 83 Hall Street, Bondi Beach. NSW 2026 AUSTRALIA. Telephone (02) 30 2105

Order by phone:

bankcard welcome here

MasterCard

We can see in the example that the code for BAT AND BALL is '04', so this means that it is an unlocked Applesoft file. If the file is deleted then this byte is 'FF'.

Byte 03 - 21 This is where the name of the file is stored. The name is stored in ASCII (see page 8 of the Apple Users Manual for a conversion table). When a file is deleted the value of byte 03 is placed in byte 21 (2c in this example).

Byte 22 is the length of the file in sectors, in this case it is 2.

Byte 23 is not used.

This group of bytes would appear on a catalog as:-

A 002 BAT AND BALL

There are seven groups of 23 Bytes like the one described above. Seven entries per file and 15 directory sectors makes room for 105 catalog entries per Disk.

Conclusion

As can be seen from the above material all of DOS'S records are kept in the VTOC and the directory. Both the directory and VTOC are found on track <17> being in the middle of the disk and therefore quickest to access from any point.

FIGURE 1

Track <17>, Sector <0>

VTOC

```
00      04 11 0F 03 00 00 FE 00
08      00 00 00 00 00 00 00 00
10      00 00 00 00 00 00 00 00
18      00 00 00 00 00 00 00 00
20      00 00 00 00 00 00 00 7A
28      00 00 00 00 00 00 00 00
30      0C FF 00 00 23 10 00 01
38      00 00 00 00 00 00 00 00
40      00 00 00 00 FF FF 00 00
48      00 01 00 00 1F FF 00 00
50      FF FF 00 00 FF FF 00 00
58      3F FF 00 00 07 FF 00 00
60      FF FF 00 00 FF FF 00 00
68      3F FF 00 00 3F FF 00 00
70      3F FF 00 00 3F FF 00 00
78      3F FF 00 00 00 3E 00 00
80      3F FF 00 00 00 00 00 00
88      0F FF 00 00 FF FF 00 00
90      0F FF 00 00 0F FF 00 00
98      00 1F 00 00 3F FF 00 00
A0      3F FF 00 00 00 00 00 00
A8      00 00 00 00 00 00 00 00
B0      00 00 00 00 00 00 00 00
B8      00 00 00 00 00 00 00 00
C0      00 00 00 00 00 00 00 00
C8      00 00 00 00 00 00 00 00
D0      00 00 00 00 00 00 00 00
D8      00 00 00 00 00 00 00 00
E0      00 00 00 00 00 00 00 00
E8      00 00 00 00 00 00 00 00
FC      00 00 00 00 00 00 00
F8      00 00 00 00 00 00 00
```

FIGURE 2

Track <17>, Sector <15>

DIRECTORY (SECTOR 2)

```
00      FF 11 0E 11 0F 00 00 00
08      00 00 00 21 0F 04 C2 C1
10      D4 A0 C1 CE C4 A0 C2 C1
18      CC CC A0 A0 A0 A0 A0 A0
20      A0 A0 A0 A0 A0 A0 A0 A0
28      A0 A0 A0 A0 A0 A0 A0 A0
30      02 C2 CF D3 A0 A0 A0 A0
38      A0 A0 A0 A0 A0 A0 A0 A0
40      A0 A0 A0 A0 A0 A0 A0 A0
48      A0 A0 A0 A0 A0 A0 A0 07
50      00 1B 0F 02 C3 C9 D2 C3
58      A0 A0 A0 A0 A0 A0 A0 A0
60      A0 A0 A0 A0 A0 A0 A0 A0
68      A0 A0 A0 A0 A0 A0 A0 A0
70      A0 A0 03 00 1C 0F 84 C3
78      C9 D2 C3 AE CF C2 CA A0
80      A0 A0 A0 A0 A0 A0 A0 A0
88      A0 A0 A0 A0 A0 A0 A0 A0
90      A0 A0 A0 A0 A0 02 00 05
98      0F 02 C3 C9 D2 C3 CC C5
A0      A0 D2 C5 CE D5 CD A0 A0
A8      A0 A0 A0 A0 A0 A0 A0 A0
B0      A0 A0 A0 A0 A0 A0 A0 A0
B8      03 00 1A 0F 04 C3 CC A0
C0      CD C5 CD A0 A0 A0 A0 A0
C8      A0 A0 A0 A0 A0 A0 A0 A0
D0      A0 A0 A0 A0 A0 A0 A0 A0
D8      A0 A0 A0 02 00 19 0F 04
E0      C3 CC C5 C1 D2 A0 CD C5
E8      CD A0 A0 A0 A0 A0 A0 A0
F0      A0 A0 A0 A0 A0 A0 A0 A0
F8         A0 A0 A0 A0 A0 02 00
```

Mouseware - at last, mouse-driven maturity for the Apple II

Those of us who thought that the mouse was a passing craze and if we all closed our eyes it would go away, have turned out to be wrong. Likewise incorrect. Now, at last, mouse-driven programs have appeared for the Apple II. Unbelievably, they come from France. And they are great with even better goodies on the way to Australia. Duncan McCann reports.

THOSE OF US who thought that the mouse was a passing craze and if we allclosed our eyes it would go away, have turned out to be wrong. Likewise incorrect. Not only does it exist in all its wondrous animation on the Macintosh, it is now on the IBM and the Apricot and who knows what else.

Despite all rumours to the contrary, the mouse was not invented by Apple.

It came from the Palo Alto Research Centre - that remarkable thinktank sponsored by Xerox, from which, as far as I can ascertain, they made very little profit but helped the rest of the scientific community no end.

For some time we have had a mouse for the office Apple IIe, loaned to us by the delectable Inge, the Norwegian public relations person at Apple.

And in truth, we have not done much with it, simply because every slot in the machine has been packed full with accessory boards driving everything from a hard disk to a modem.

> **"Now there has been a certain amount of rationalisation in the office - we emptied the wastepaper baskets and watered the potted plants."**

Now there has been a certain amount of rationalisation in the office - we emptied the wastepaper baskets and watered the potted plants - we have at long last been able to fit the mouse and put it through its paces.

First of all, a philosophical point. There are those of us who are high speed touch typists who cannot and will not get used to the mouse. It means lifting a hand away from the keyboard and that slows down the operation more than somewhat.

> **"The vast majority of personal computer owners are not touch typists, they are in the hunt and peck league. For them the mouse is a great advantage."**

However, the truth of the matter is the vast majority of personal computer owners are not touch typists, they are in the hunt and peck league. For them, the mouse is a great advantage.

It has taken us a long time to come around to this way of thinking - possibly because everyone in the office is a touch typist of a fairly high level of skill. But having studied many other users and having conducted a sort of mini-survey, we are now of the opinion the mouse is a Good Thing.

Now the mouse is readily available for the IIe and the IIc, programs using the wee beastie to its fullest advantage are starting to come off the assembly line.

Important to note these programs appear to have been specially written with the mouse firmly in mind. They do not seem to operate as standard programs with the mouse tacked on afterwards.The mouse is an essential and integral part of the program.

MouseWord

MouseWord is one of the better word processor programs on the market.

In fact, I will go a lot further.

For my money this is the most sophisticated handling package for we have ever seen for the Apple II and its limitations are limitations of the machine, not the program.

It will run happily on the IIc or the IIe but, interesting this, the writers recommend you have a 65C02 central processing unit upgrade on your IIe.

> **"The mouse is an essential and integral part of the program."**

There are 27 more instruction sets in the 65C02 than there are in the 6502 and the program apparently accesses some of them.

Second interesting point is the program was made and written in France.

You may or may not be aware that Apple in France is one of the major success stories in computers, so we may well be seeing more programs coming from there in the near future.

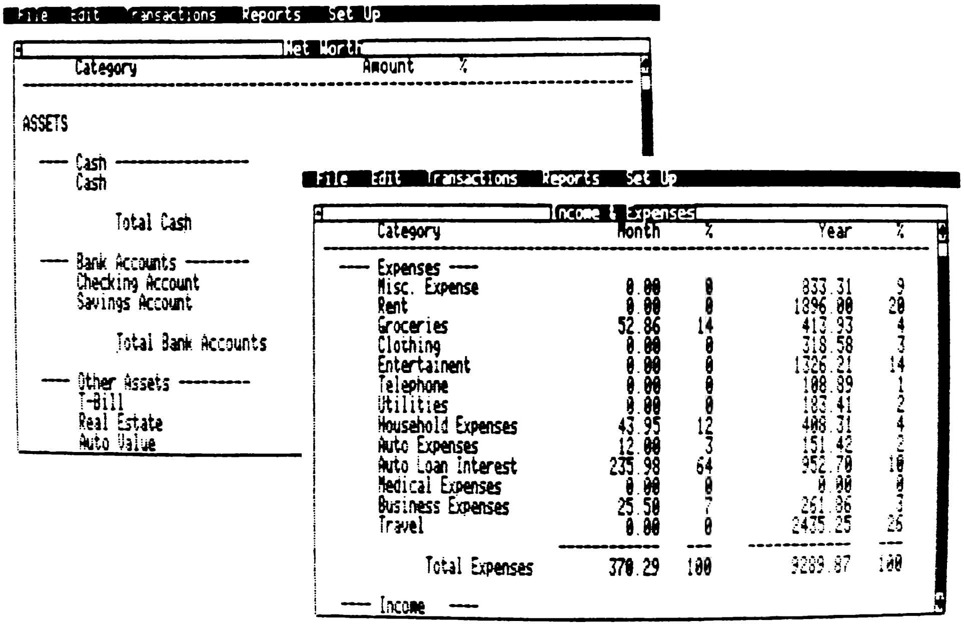
What you get for your money is not your basic standard word processor. You get the following goodies which, as far as I can ascertain, form a unique package.

1. There is a built-in calculator which lets you carry out all the normal calculator functions, and then some, without leaving the keyboard. You can perform arithmetic, logarithmic and Boolean calculations without leaving your program. Arithmetic we can understand. Boolean, which is the basic system on which all computers are built, seems pretty logical. But logarithmic? Either the French are working on a different basis from us or this has just been chucked in because it seemed a good idea at the time.

"You may or may not be aware that Apple in France is one of the major success stories in computers, so we may well be seeing more programs coming from there in the near future."

Secondly, there is a built-in communications package which is first rate. Understand this is part of the program - not a tacked-on afterthought. It is, understandably, biased towards American databases but nevertheless it is a truly excellent communications program in its own right. It is extremely easy to use and, because it is integrated into a word-processing package, it makes handling messages a piece of cake.

The program also comes with a glossary system built-in - this means you can set up a library of frequently used phrases and paragraphs and call them up with open Apple G whenever they are required.


File Edit Transactions Reports Set Up
Net Worth
File Edit Transactions Reports Set Up
Income & Expenses

```
Category                              Amount    %
-------------------------------------------------
ASSETS

 ---- Cash ----------------
      Cash

           Total Cash

 ---- Bank Accounts --------
      Checking Account
      Savings Account

           Total Bank Accounts

 ---- Other Assets ---------
      T-Bill
      Real Estate
      Auto Value
```

```
      Category                   Month     %        Year     %
---------------------------------------------------------------
  ---- Expenses ----
      Misc. Expense               0.00     0      833.31     9
      Rent                        0.00     0     1896.00    20
      Groceries                  52.86    14      413.93     4
      Clothing                    0.00     0      318.58     3
      Entertainment               0.00     0     1326.21    14
      Telephone                   0.00     0      108.89     1
      Utilities                   0.00     0      183.41     2
      Household Expenses         43.95    12      408.31     4
      Auto Expenses              12.00     3      151.42     2
      Auto Loan Interest        235.98    64      952.70    10
      Medical Expenses            0.00     0        0.00     0
      Business Expenses          25.50     7      261.86     3
      Travel                      0.00     0     2435.25    26
                              --------   ---   ---------   ---
          Total Expenses        370.29   100     9289.87   100

  ---- Income ----
```

Even more. The program contains a proper mailing list system which is a joy to use and, as far as I could tell, bug-free.

All of this razzmatazz eats up a lot of memory. You must have a 128K machine or you are not going to move from the block because *Mouse Word* takes up 81K of memory. Understandable because how else could they have got in all the goodies? Still and all, that is one fair sized chunk of program and it will be most interesting to see when they will offer a modified version to use the new one megabyte memory cards when they become available in Australia.

How well does it work? Marvellously. The addition of some of the Macintosh features which allow you to zip your way around the text speeds up the process tremendously.

"It will be most interesting to see when they will offer a modified version to use the new one megabyte memory cards when they become available in Australia."

All of the standard goodies are there - headers, footers, automatic page numbering, subscripts, super- scripts, block moves, you name it *Mouse Word* has it.

"If and when we get 800K 3.5 inch double sided disks on the Apple this may well turn out to be the perfect word processing program."

What it doesn't have is a dictionary or a thesaurus and this is plainly a problem of space.

If and when we get 800K 3.5 inch double sided disks on the Apple this may well turn out to be the perfect word processing program.

Perfect because it has almost every feature you could ever need or desire on a word processing program yet has the built-in capability of being expanded to meet futrure improvements in the Apple II line. And the documentation is quite simply the best we have ever seen on such a program - readable, helpful, non-condescending, literate.

And it came from France.

Incroyable.

Mouse Budget madness strikes the Apple II

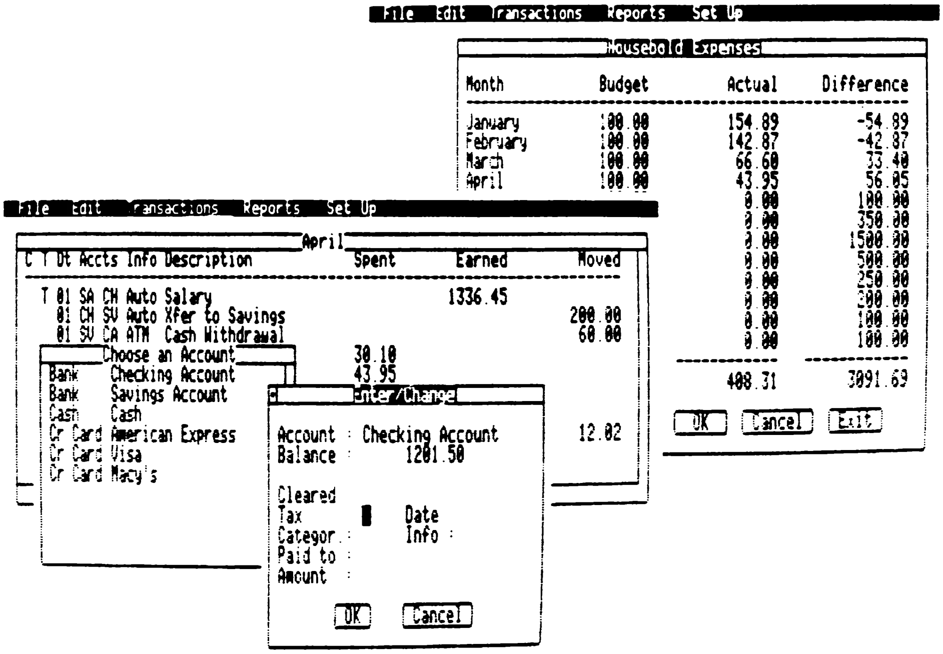
Another program which comes from the same French publishing house, which is called Versionso,ft is *Mouse Budget.*

Whether it is going to be of any use to you depends on the way you handle your personal finances. Please note that this is not, repeat not, a business program. It is a program specifically intended for you to be able to keep an eye on your personal expenses and work out whether you have any money left in the bank at the end of the month. Frankly, it's not the sort of program that appeals to me because I have never kept a close eye on my cheque book - which is probably why I'm always in strife with the bank manager.

> **"It is a program specifically intended for you to be able to keep an eye on your personal expenses and work out whether you have any money left in the bank at the end of the month."**

In the introduction to *Mouse Budget* the author, Henri Lamiraux, says with uncommon honesty "What can you do with Mouse Budget? Two very useful things.

"First and foremost, you can keep track of your finances, your bank accounts, credit cards, expenses, income, assets and bills. Using *Mouse Budget,* you will soon be able to see exactly where your money goes and how to make it work harder for you. *Mouse Budget* will tell you what you pay to whom, when and why. You can even ask it to sort income and expenses in a variety of ways. You can use it to budget for your future needs, and it will compare your progress to your budget as you go.



```
Household Expenses
Month          Budget       Actual     Difference
-------------------------------------------------
January        100.00       154.89       -54.89
February       100.00       142.87       -42.87
March          100.00        66.60        33.40
April          100.00        43.95        56.05
                              0.00       100.00
                              0.00       350.00
                              0.00      1500.00
                              0.00       500.00
                              0.00       250.00
                              0.00       200.00
                              0.00       100.00
                              0.00       100.00
                          ----------  ----------
                            408.31      3091.69
```

```
April
C T Dt Accts Info Description        Spent      Earned     Moved
-----------------------------------------------------------------
  T 01 SA CH Auto Salary                       1336.45
    01 CH SV Auto Xfer to Savings                          200.00
    01 SV CA ATM  Cash Withdrawal                           60.00
                                     30.10
                                     43.95
                                                            12.02

Choose an Account
Bank     Checking Account
Bank     Savings Account
Cash     Cash
Cr Card  American Express
Cr Card  Visa
Cr Card  Macy's

Enter/Change
Account  :  Checking Account
Balance  :        1201.50

Cleared
Tax         █     Date
Categor. :        Info :
Paid to  :
Amount   :
```

"Second, this program will teach you more about the useful things your Apple can do for you. *Mouse Budget* is a good introduction to computer use. You may also want to investigate other Versionsoft products that take full advantage of your mouse to simplify and speed up computer use."

And that's pretty well precisely it.

What this program does is allow you to keep a very careful track of all of your personal expenses. It is, in effect, a simplified form of a cash book in that you can allocate various areas for the types of expenses that you have.

In a sense it is not only a good introduction to Apple computers, it is also a good introduction to basic financial management.

However, the limitations of the program are such that I think unless you run a very complicated personal life indeed you will soon get fed up with it. Either you will want to use a proper business program for running a small business or, alternatively, you will decide to go back to writing on the back of your chequebook.

> **"Either you will want to use a proper business program for running a small business or, alternatively, you will decide to go back to writing on the back of your chequebook. "**

Nevertheless *Mouse Budget* is a very useful way of learning how to use the Apple with one of the famous mouses (in America the plural of the word mouse is, I promise you, mouses). It integrates with the Apple and with the software.

> **"*Mouse Budget* is a very useful way of learning how to use the Apple with one of the famous mouses. It integrates with the Apple and with the software. "**

The greatest virtue of this package is, once again, the doumentation. It is a model of clarity, precise definitions and friendliness.

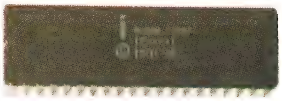
It is of a higher standard than the standard documentation Apple supply with the IIe and IIc - and there is no higher praise than that.

When you consider it was originally written in Franch the mind boggles at the talents of the authors.

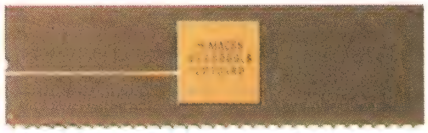
(continued on page 16)

What makes Macintosh tick. And talk.

The brain of the Apple Macintosh uses a blindingly fast 32-bit MC680000 microprocessor. Far more powerful than the 16-bit 8088 found in current generation computers.


The 16-bit 8088 microprocessor.

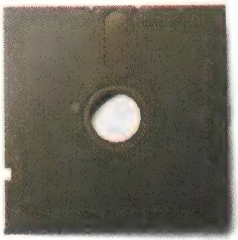
Macintosh's 32-bit MC68000 microprocessor.



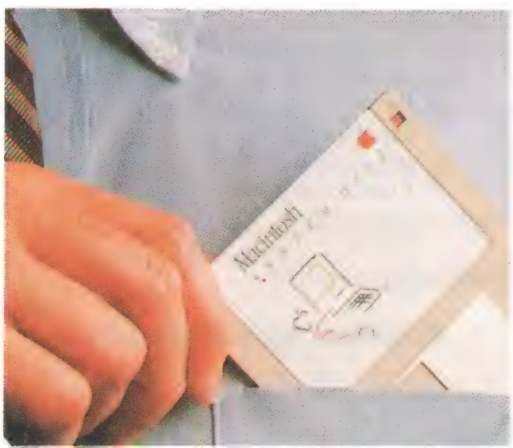
The heart is a revolutionary technology of windows, icons, pull-down menus and mouse-commands.

Which makes the 32-bit power not only more useful but easier to learn.

Another miracle of miniaturisation is Macintosh's built-in 90mm (3½") microfloppy disk drive. Its 90mm disks store more than conventional 135mm (5¼") floppies – 400K. So while they are big enough to hold a desk-full of work, they are small enough to fit in a shirt pocket.


Standard 135mm (5¼") floppy disk.

Macintosh's 400K 90mm (3½") disk.



And, thanks to its size, if you can't bring the problem to a Macintosh, you can always bring a Macintosh to the problem. (Macintosh actually weighs less than 9 kilos.

Small footprint. Macintosh is ⅓ the size and volume of the IBM PC.

And speaking of talking, Macintosh has a built-in polyphonic sound generator capable of producing high-quality speech or music.

All it takes to get it talking is special Macintosh speech generating software.

On the back of the machine, you'll find built-in high speed RS232 and RS422 AppleTalk/serial communication ports. Which means you can connect printers, modems and other peripherals without adding $250 cards.

It also means that Macintosh is ready to hook into a local area network. (With the AppleTalk Personal Network, you'll be able to connect up to 32 computers and peripherals.)

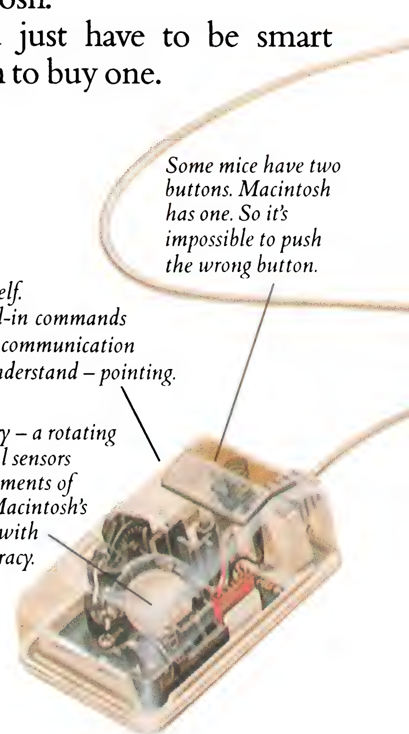
Should you wish to double Macintosh's storage with an external disk drive, you can do so without paying extra for a disk-controller card – that connector is built-in, too.

And, of course, there's a built-in connector for Macintosh's mouse, a feature that can cost up to $500 on computers that can't even run mouse-controlled software.

Of course, the real genius of Macintosh isn't its serial ports or its polyphonic sound generator.

The real genius is that you don't have to be a genius to use Macintosh.

You just have to be smart enough to buy one.

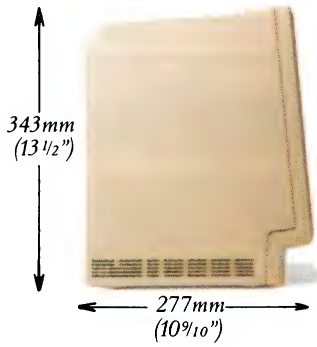

Some mice have two buttons. Macintosh has one. So it's impossible to push the wrong button.

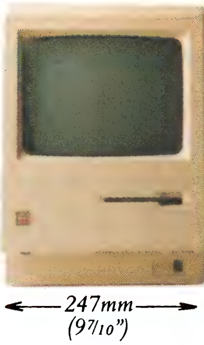
The Mouse itself. Replaces typed-in commands with a form of communication you already understand – pointing.

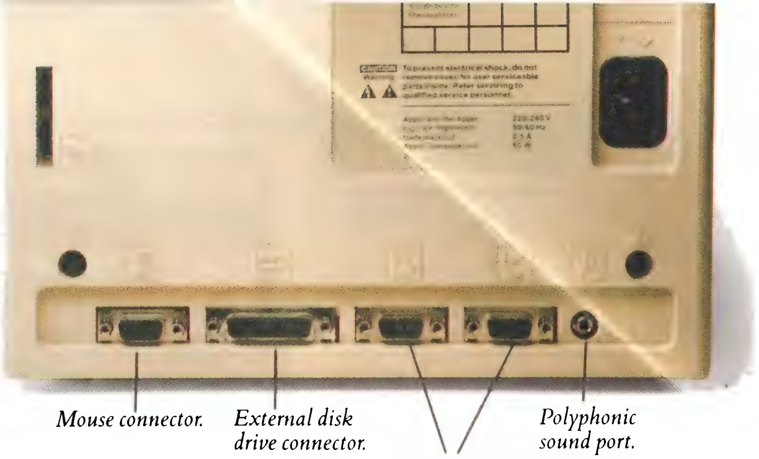
The inside story – a rotating ball and optical sensors translate movements of the mouse to Macintosh's screen pointer with pin-point accuracy.

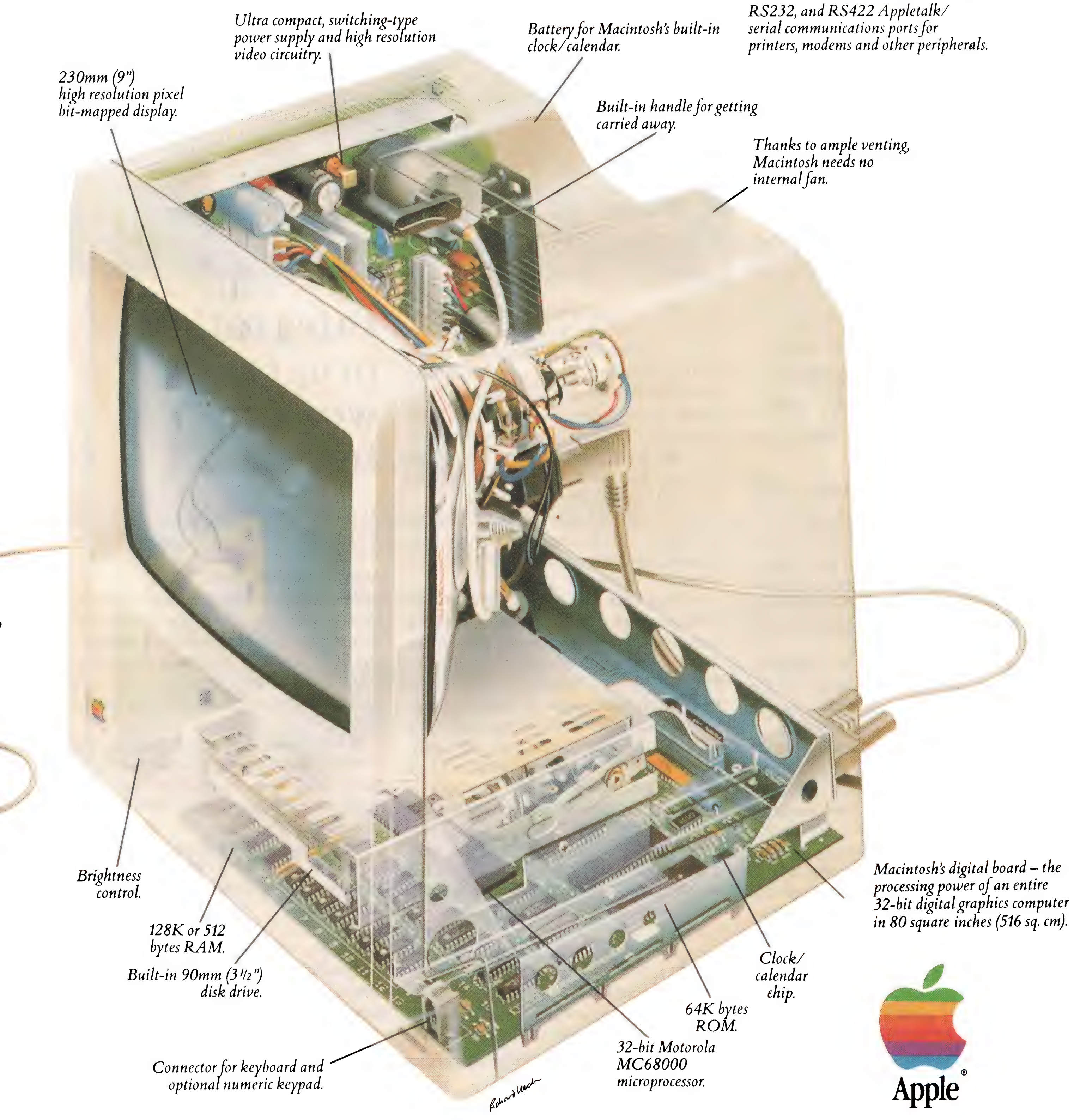
Apple credit card available at participating dealers.
For your nearest Apple dealer, outside Sydney call toll-free (008) 221555 or Sydney 908 9088.

Ap140R/Palace


343mm (13 1/2")
277mm (10 9/10")

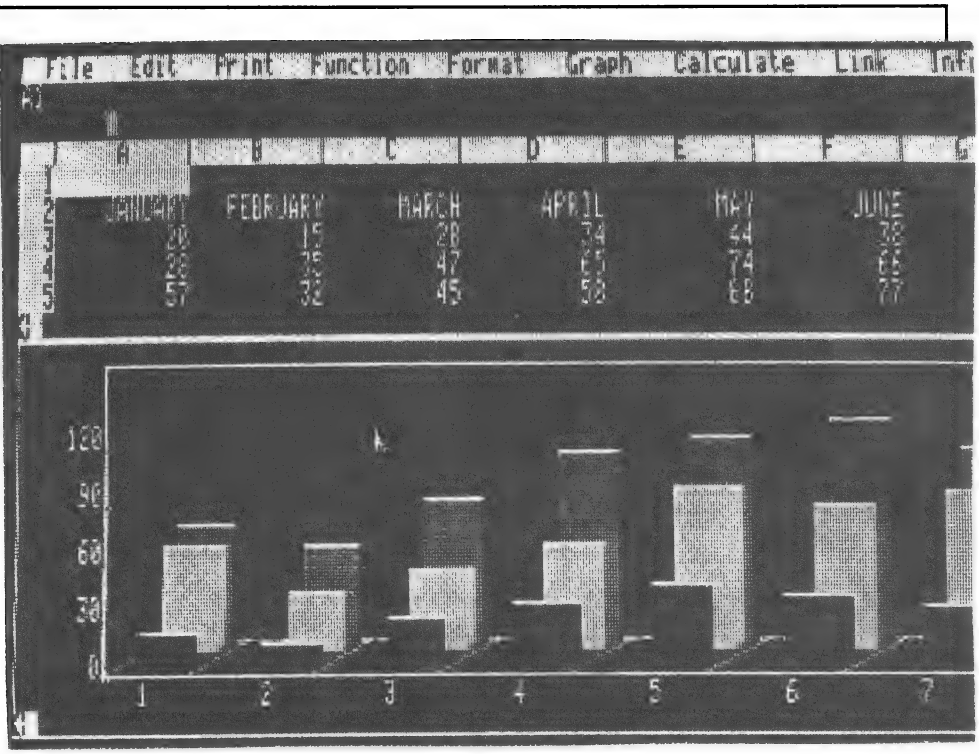

247mm (9 7/10")


Mouse connector.
External disk drive connector.
Polyphonic sound port.
RS232, and RS422 Appletalk/ serial communications ports for printers, modems and other peripherals.


Ultra compact, switching-type power supply and high resolution video circuitry.
Battery for Macintosh's built-in clock/calendar.
230mm (9") high resolution pixel bit-mapped display.
Built-in handle for getting carried away.
Thanks to ample venting, Macintosh needs no internal fan.
Brightness control.
128K or 512 bytes RAM.
Built-in 90mm (3 1/2") disk drive.
Connector for keyboard and optional numeric keypad.
32-bit Motorola MC68000 microprocessor.
64K bytes ROM.
Clock/ calendar chip.
Macintosh's digital board – the processing power of an entire 32-bit digital graphics computer in 80 square inches (516 sq. cm).

Apple®

Mouse madness spreads even to spreadsheets



ANOTHER PROGRAM which comes under the mouse regime is *Mouse Calc* by Luc Barthelet. Now this one of the more interesting programs I have seen for some time.

First of all it demands that your equipment be rather better than you would expect. It insists that you have a double highres video monitor and it also insists that you modify your Apple IIe so that it will work at a higher screen resolution for *Mouse Calc.*

"Anyone who has ever used *Visicalc* will have no problems whatsoever in working with it, and the incorporation of Macintosh-type pull-down files make life a lot easier. "

In a sense this is a standard electronics spreadsheet except for the fact that to use it you must use the mouse.

Anyone who has ever used *Visicalc* will have no problems whatsoever in working with it, and the incorporation of Macintosh-type pull-down files make life a lot easier. They've also put in the Macintosh system for moving around very rapidly by putting the arrow onto a square and sliding it up and down the screen. For reasons of their own they have called this "elevator". It does not matter what you call it, it makes operating in a spreadsheet extremely easy.

Another important function of the program is that you can easily print the information out either as a straight spreadsheet or a graphic. The number of varieties of graphs that you can use is relatively limited.·You can have your graph either standard, in three dimensional bar charts, or in what they call connected lines. It makes the end result much easier to understand. The great virtue of this spreadsheet is that you can have your columns any width that you like - a point that was missing from the original *Visicalc.*

But the most important point of all is that you can learn how to use the spreadsheet properly by reading the manual.

It was the managing director of Westpac who best underlined the importance of spreadsheets. Bob White ,in an address some months ago, said that any manager who did not learn how to calculate a customer's state of affairs through using a spreadsheet would soon be out of work. Which has probably excited great interest in Westpac bank managers in the working of the computer. Perhaps they should all buy *Mouse Calc* for the manual.

This is beyond doubt one of the best manuals that has ever been written for spreadsheets by anyone. It is logical, lucid, well constructed, and easy to follow.

It is an example of how all manuals should read if we lived in a perfect world. In a real sense it is almost worth buying *Mouse Calc* in order to see how the masters of text book art can turn out a book of transcendental elegance.

Integration - programs working together

ALL OF THE MOUSE packages work together. In other words you can take the copy from one and happily insert it into another program.

You can cut and paste and carry over from one to the other. But even more importantly these programs are written in ProDOS and you can take information from almost any ProDOS file and automatically integrate it into the Mouse series.

In fact, even if the programs are not ProDOS files you can transfer them from being DOS files into ProDOS files using your utilities disk and then transfer them over.

I took a fair amount of information that I had prepared on a *Visicalc* file and transferred it without any problems whatsoever.

This is a truly excellent series of programs. Perhaps some of the best programs we have had in for test for a long time. Let us hope that the French continue their love affair with the Apple - *la vraie pomme Americaine.*

LOOKING FOR THAT SPECIAL GIFT?

The ideal Christmas present -

a subscription to The Australian Apple Review

If you would like to send a year's subscription to the *Australian Apple Review* to a friend, it will cost you $34 for 12 issues. As soon as we get your order we will send a personalised Christmas card from you to the lucky recipient, together with a copy of the magazine. True, the card will not be in the full glory of colour. True, you may think it's a little corny. But it will have been personally printed for you on our LaserWriter operated through the Macintosh, with Christmas drawings. We will include a 12 word personal message from you as well if you like. The card is free, you just pay for the subscription.

CHRISTMAS SUBSCRIPTION

The Australian Apple Review

Subscriber

Name:...
Address:..
.... Postcode ....
(please print in BLOCK letters)

Please enrol above Apple user for .... issues subscription to *The Australian Apple Review*, commencing with the .... issue.

I enclose a money order/cheque for ....
OR my Bankcard number is ....

Subscription is a gift from:

Name:...
Address:..
.... Postcode ....
(please print in BLOCK letters)

Message to be included in Christmas card: ....
....
....

Rates within Australia
Subscription rate for 6 issues $18.00
Subscription rate for 12 issues $34.00

The Australian Apple Review
Top Rear, 4 Carrington Road,
Randwick, NSW 2031.

Phone: (02) 398 5111

AppleWorks

Using the DataBase to print a numerical synopsis

by Errol Chopping

General Information

This paper is designed to help you get the best out of your AppleWorks database software in one particular application. It is not my intention to teach you how to use AppleWorks generally as the manual itself does that quite well.

I will be writing other such articles on other parts of the software from time to time and so this paper is quite specific, dealing with one aspect only.

The Application

When you design and work with the AppleWorks database you usually intend to use it for storing and retrieving written information, names, addresses, inventory lists and so on. When it comes time to print a report based on this information it is quite easy to design a report format which will produce lists of items in columns.

This paper addresses one calculating aspect of the database during report printing.

It is possible, with a little work, to print the database information in such a way that it produces a synopsis giving the number of items falling into different categories. In this way it can be used to generate some analysis of the data.

In the rest of the paper I will explain the technique using a number of examples. The examples may themselves be useful applications but hopefully you will be able to use them as a guide in doing some analysis of your own information.

Example 1:

Names, Addresses, Phone Numbers - (Easy Application)

Getting the file ready

Let us suppose you have an AppleWorks database file containing alist of peoples' names and addresses.

In order to do a synopsis here you would have to also have some **extra** categories.

step 1

Load the file from your data disk onto the AppleWorks desktop and press OpenApple-N. This will allow you to change the name of the file and also add new categories.

Press the return key a number of times to move past the name of the file and to leave the current categories unchanged. When you get to the end of the list of categories, add these two new category names: "Search Key" and "Counter". Press ESC to get back to working with your file.

The new "Search Key' category will be used to record particular information about each person in your file. Theinformation you will eventually enter in the category is up to you, but for the sake of this example, we will use it to record the occupation of each person.

The "Counter" category will simply contain the numeral 1 in every record of the database. This counter is the clue to getting numerical totals and the like in the print-outs.

Your file, in single record layout, should now look something like this:

Name:-
Address:-
Address:-
Phone No:-
Search Key:-
Counter:-

step 2

Go to the multiple record layout of your file. This is the one where each record appears on a single line on the screen.

Press OpenApple-L and change the layout so that the Name, Search Key and the Counter categories are visible. This will allow you to enter an occupation for each person quickly. Go ahead and type in each person's occupation under the search key heading.

It is important that you be consistent with your spelling and abbreviations. For example, all people who are students should have the search key "student", don't have some with "student" and others with "pupil" etc.

step 3

Under the "counter" heading place the numeral 1 in the first record. Use the OpenApple - "function to quickly place a 1 in every record.

Your file is now ready to produce a synopsis.

step 4

Use OpenApple - P and "Create a new 'tables' format" to begin work on the synopsis. When asked for a name for thereport you could use SYNOPSIS or TOTALS.

Now delete all the categories from the report except 'Search Key' and 'Counter'.

step 5
Move the cursor onto the 'counter' category and use OpenApple - T to get that column totalled.

step 6
Move the cursor onto the 'search key' category and use OpenApple - A to arrange it into alphabetical order.

step 7
Now use OpenApple - G to have group totals based on 'search key'. When you are asked the question:"Print group totals only?"
answer YES

step 8
Use openApple - P to print the report, I usually choose to print these reports to the screen only.

What you should see is something like this:

```
  Search Key         Counter
                        5
  carpenter             8
  doctor                4
  plumber               9
  student               23
  teacher               12
                        61*
```

Which gives the number of people in each occupation and a total of all the people in the file. You may notice in my sample here that the first line is blank. This could be because there are 5 people in the file who do not have an entry in the 'Search Key' category.

Example 2:

Student Subject Choices - Year Coordinator's Report.

Getting the file ready

Many teachers are using the AppleWords database to record the names and subject choices of pupils and could use a synopsis to calculate the number of girls and boys in each of the subject groupings.

The categories in each record would be similar to the following:
Name:-
Sex:-
Line 1:-
Line 2:-
etc

step 1
In order to get a synopsis you would have to add the following categories:
Male:-
Female:-
Counter:-

You do not need a 'search key' here as the actual subject lines will be used for this.

step 2
Using the multiple record layout, OpenApple - A (Arrange) and OpenAppel - " (ditto) features, place the numeral 1 in every record under the 'Counter' category. Place the numeral 1 in the 'Male' category for each boy and numeral 1 in the 'Female' category for each girl.

step 3
Design a report format which contains only the categories 'Male', 'Female' and 'Counter' plus ONE of the subject choice categories. your report will look something like this:

```
Line 4      Male     Female     Counter
```

step 4
Use OpenApple - T to total the 'Male, 'Female' and 'Counter' categories.

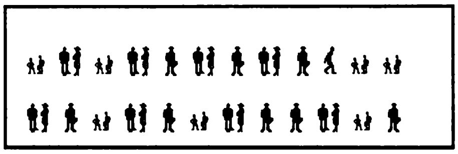
step 5
Arrange the 'Line X' category alphabetically and get Group Totals on this category. Don't forget to specify that you want to print the group totals only.

step 6
Print the report to the screen and you should see a synopsis similar to the following:

```
Line 4        Male     Female     Counter
               2         1           3
geography      12        13          25
history        13        13          26
music          6         3           9
french         9         7           16
art            14        15          29

               56*       52*         108*
```

The first line indicates 3 pupils (2 boys and 1 girl) who do not do any subject on line 4.



step 8
In order to get a synopsis on another subject line simply delete the 'line 4' (use OpenApple - D) and insert the subject line of your choice (OpenApple-I)

Don't forget to arrange the new category into alphabetical order and to get group totals on this new category.

Example 3:

Athletics or Swimming Carnival

General Information

In this example, I am *not* going to explain how to conduct your athletics or swimming carnival with the AppleWorks Database.

This has been done successfully a number of times, however, and readers who are interested in this application may obtain a disk from me which has a sample file taken from an inter-school athletics carnival.

I will also be making the athletics carnival application the specific subject of another paper in this series.

This example simply explains how to use the synopsis type reports to analyse the results of the carnival.

Let us suppose you have created a database file which will be used to record the name, house, event, place and points of participants in a school athletics carnival. Let us assume further that there are 4 houses in the school called 'red', 'blue', 'yellow' and 'green'.

PLUS WORKS
FREES
APPLEWORKS

Norwich Data Services Ltd announces:

- Expand Appleworks to 1 megabyte to run on your Apple II, II+, IIE or Compatible
- Change STARTUP disk to let you run Appleworks with all functions available from your keyboard
- Support for most 80 column cards
- Available in three versions:

PLUS-WORKS: requires 64K Apple II or Compatible, Applesoft ROMS, 80 column card and usual shift key mod where needed. $35.75 + $4.00 postage/packing.

PLUS-WORKS-XM: requires addition of suitable ram card to expand Appleworks to 1 megabyte and data base to 4,200 records, works for IIe also, most ram cards supported. $79.95 + $4.00 postage packing.

PLUS-WORKS-XMP: requires addition of Starcard or similar extended Z-80 card with 64K RAM to give 72k desktop. $79.95 + $4.00 postage/packing.

Available from: TECHFLOW,
Sole Distributor Australasia.
PO BOX 4, WOODFORD,
AUSTRALIA 2778.
TELEX AA 71333 TECFLO.
TELEPHONE 047-58-6924.

Dealer Enquiries Welcome

Apple & Appleworks trademarks of Apple Computer.
Starcard trademark of MicroPro International.

Back Copies
There are people who like to collect a full set of every magazine they read. Let us not discourage them for a moment. Our back copy department, under the command of the young and lovely Tina Spathos, has still got some back copies available at $2 each. We have many of some issues, none of the others and only a few of some titles. We've just found a few more of the previously missing Vol 2 No 2.

Available:
Vol 1 Nos 1,3,4,5,6,7,8,9 and 10.
Vol 2 Nos 1,2,3,4,5,6,and 7.

Send a money order, cheque or Bank Card number with the numbers of the copies you want to Tina at
Australian Apple Review,
4 Carrington Road, Randwick, 2031.
Phone (02) 398 5111.

DATABASE

Each record in your file would look something like this:
Name:-
House:-
Points:-
etc
etc

step 1

Add the 'counter' category to the file and install the numeral 1 in every record.

By the way, if you are creating a new file for this purpose or if you are going to be inserting new records fairly often then you can save yourself time and energy by making the 'counter' category contain the numeral 1 as a standard value. To do this use the OpenApple - V function of the database.

step 2

As each pupil comes to the recording table at the carnival the person doing the rcording enters the information.

Make sure you are consistent with names of the house and the pupil's name. If you record the house names as 'red','blue' etc then do not later on change this to R, B etc.

Likewise, if you type 'B.Bloggs' when this pupil is recorded then do not later in the day enter the name as 'Billy Bloggs' when the pupil comes again.

step 3

To get a report on the winning house at any time create a report which contains the categories and layout as follows:
House Counter Points

Use OpenApple - T to get the 'counter' and 'points' categories totalled.

Use OpenAppel - G the get group totals on the 'house' category.

Remember to print the grooup totals ONLY.

Use OpenApple - A to arrang the 'house' column in alphabetical order.

the report, when printed could look something like this:

House	Counter	Points
blue	45	123
green	34	101
red	42	117
yellow	12	48
	133*	389*

which gives the number of participants form each house and the total points for each house.

step 4

To get the carnival champions (based onthe number of points given) create a report format as follows:
Name counter points

As before total both the counter and points columns.

Sort the name column into alphabetical order.

Get group totals (totals only) based on the 'name' category.

When the report is printed it could look something like this:

Name	counter	points
Beth Richards	13	35
Bill Bloggs	9	28

Scanning this list can give the champion boy and girl and the carnival champion.

Summing up

The examples shown here are not perfect. I hope they do give you, the AppleWorks user a clue to getting more use from the database application.

The only way to make the synopsis style report work for you is to spend some time playing with it. Experiments will tell you if the analysis you want is possible and you will learn to organise your files in such a way that they do more with the information than merely record it.

If you discover other useful and unusual applications for any of the AppleWorks software I would be very pleased to hear from you. I will be writing other papers on related topics form time to time and so please feel free to check with me about what is available.

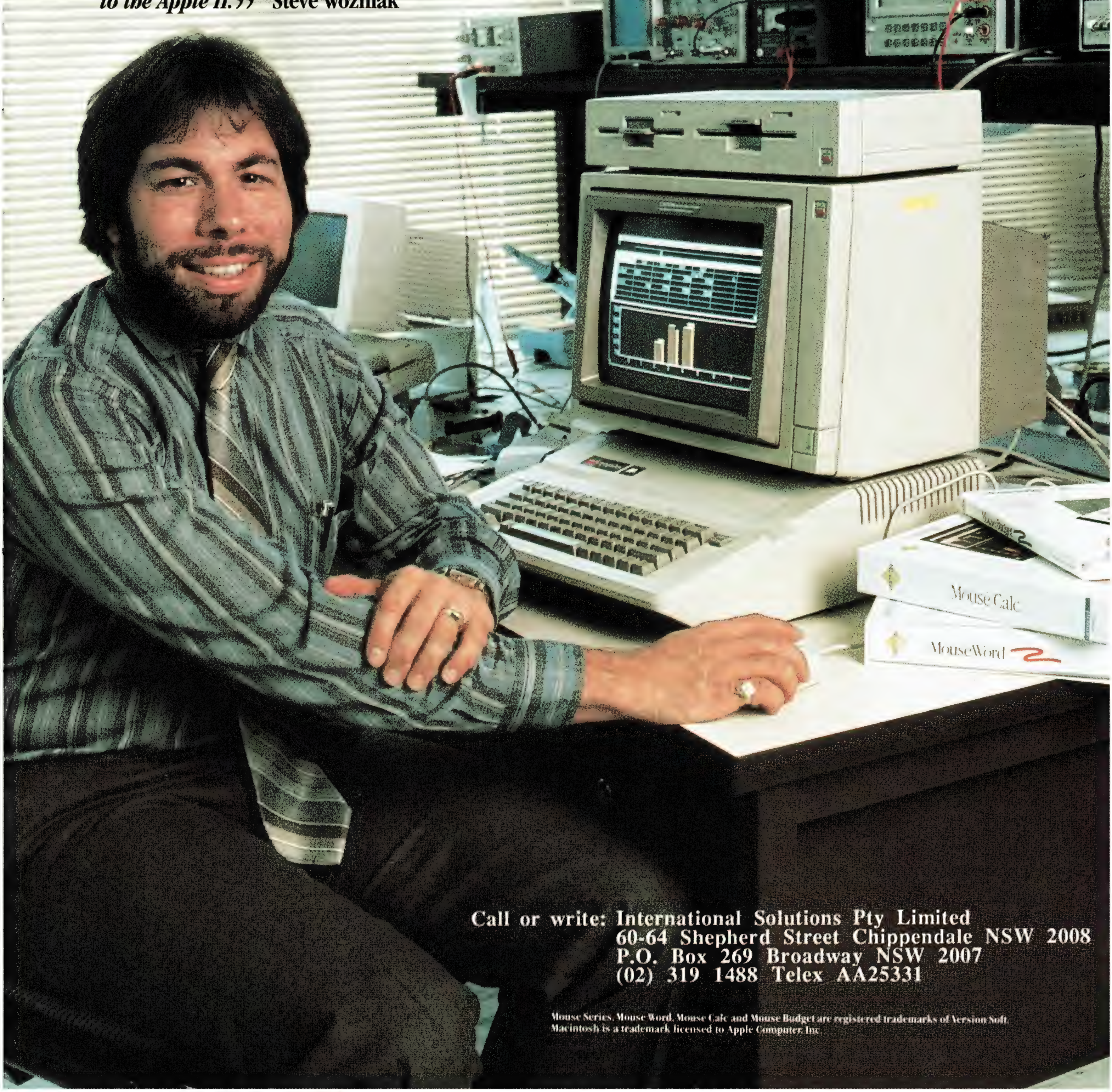
ERROL CHOPPING
DUBBO EDUCATION OFFICE
P.O BOX 865
DUBBO N.S.W. 2380
068 811 324

WE ASKED THE EXPERT

We went to the inventor of the Apple *II,* the man who helped launch the personal computer revolution, Steve Wozniak. We wanted to know if the Mouse Series,™ our new family of software for the Apple *II,* could bring new excitement to the first industry standard:

“The Mouse Series™ is the natural evolution of Apple II software. The customer of today needs power… that's a given. The Mouse Series lets you get over that learning curve… quickly. It brings many of the advantages of the Macintosh to the Apple II.” Steve Wozniak

With Mouse Calc™ you can really make your worksheet play… and in less time than you ever thought possible. Avoid the draft the second time… every time with Mouse Word,™ an exciting word processor that has communications built in. And for personal use, make sense out of your dollars with Mouse Budget,™ a home financial package that can grow with you… and your family.



Call or write: International Solutions Pty Limited
60-64 Shepherd Street Chippendale NSW 2008
P.O. Box 269 Broadway NSW 2007
(02) 319 1488 Telex AA25331

Mouse Series, Mouse Word, Mouse Calc and Mouse Budget are registered trademarks of Version Soft.
Macintosh is a trademark licensed to Apple Computer, Inc.

Computers programs to work with - down on the farm

As Australian farms become more and more modernised computers are starting to play a major part in their lives. But are there enough programs?

by Gareth Powell

CONSTANT READERS may disbelieve this but I am, in fact, a farmer. I suppose I'm what they call a Pitt Street farmer. Except for the fact that I get no tax advantage out of it whatsoever. The reason why I am a farmer is simply that I like going to the countryside every other weekend and getting away from the rat race.

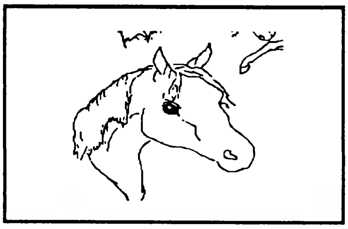
There is a widely held belief that modern management techniques can be taken from the city and used in the country with great success. I very much doubt if it is true. To be able to operate a farm successfully you have to have an understanding of so many different trades that the mind boggles. I never thought when I bought my property outside Molong that not only would I have to learn how to become a welder but I would also have to learn how to calculate the amount of fertilizer required in any given year to give the maximum results.

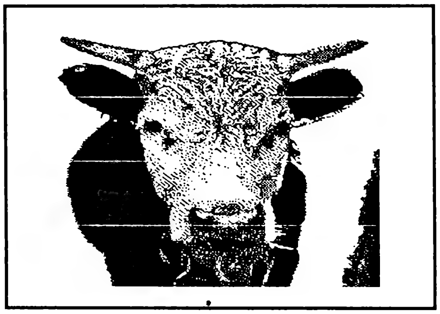
And, in truth, I am not very good at it. So I use the services of a neighbouring farmer who tells me what to do and when.

Despite all this I am firmly of the belief that a computer can help a farmer maximise results from a given area of land.

The problem so far has always been that the programs I have seen have either been written specifically for the American market or they have been far too generalised.

We are now beginning to see computer programs for Australian farmers coming onto the market which are valid, relatively easy to use and help the farmer raise his profits.





The first thing that can be done with any computer is to put all the accounts of the farm onto the machine. This is not difficult. There are tons of programs available. All of them work quite well.

In this company we have for many years used Harry Harper's *Cash Book* in order to maintain some semblance of order in our accounts.

I transferred the program up to the farm and found that it work wonders. That is a very simple program but it allows me to have all my accounts in order for that time of the year when the accountant comes along to prepare information for the dreaded income tax authorities.

In fact, we are now playing with a new and far more sophisticated accountancy program but will not report on it until we have actually had it up and running for about six months. I can't see how anybody can possible do a review on an accountancy program in less time than that.

Most of the agricultural programs that we have seen for some time have been coming from Tandy, who have pretty well corralled the market. In a piece of marketing chutzpah which wins my grudging admiration, they actually charge money for the catalogue of agricultural programs that they sell.

Now we are seeing programs coming out of the Apple. One, as we reported in a earliar issue, won an award at last year's Easter Show.

I have now been using in a genuine way a program from the United States called *AgDisk.*

It's a crops and livestock profit projector, and although it was orginally written for the American farmer - the company which produces it comes from Nebraska, a large flat state in the USA which has unbelievably cold winters - hevertheless the basic techniques of this program are such that it works perfectly well under Australian conditions. I know, I have used it. In the introduction it says "the *AgDisk* profit projector program is a management tool. It is designed to help you make decisions about your farm operations with confidence. Experience and expertise got you where you are today. This program represents an extension of your skills and investment in your future".

This seems to me to sum up exactly what all good farm programs should be about. They should help the farmer to use the experience and talents that he has to greater purpose.

With this program you can take any project on the farm, enter the relevant figures - even if they are guesstimates - and get out a result which will show you the profit or loss that you can expect, or the impact of higher cost and lower sales figures on these profits.

You can get six different types of graphs and reports from this program. They are:

1) profit projections report,
2) break even graph,
3) expense percentage graph,
4) profit comparison graph,
5) split projections report,
6) split projection-break even graph.

Now that I have used the program for a while it is obvious that I can set up something exactly the same on a reasonable spreadsheet program. Which will not be the point of the exercise. Most farmers have enough to do without trying to learn computer programming as well.

I would be most interested to see what other agricultural programs are available for the Apple in Australia. If anyone knows of them or has used them, please drop me a line. I would like to review them in the near future.

The next home entertainment revolution

by Ric Richardson

WHY DO PEOPLE spend millions of dollars on learning how to play musical instruments?

Why will people spends thousands of dollars for a piano or organ that they don't even know how to play, yet?

Why do the majority of people prefer to dance to music rather than just listen?..... Why?

Because it is the natural inclination of a human to DO something, to EXPRESS themselves.

Technology has been giving us many weird and wonderful distractions that have, for the moment, retarded this in modern man. The emergence of television has done much to stunt creativity by providing entertainment that requires the very minimum of effort. But as these THINGS lose their appeal, creativity in the home will regain its formerly high importance.

Computers, like the Apple, are a part of that intriguing distraction. Playing video games has become family entertainment for thousands of families here in Australia with reported sales of 24,000 a year of Macintoshes and Apple IIs alone. But where are those computers now? If the owners don't go beyond games and into areas such as programming it is inevitable the computers will be under-used... Why?

Because humans NEED TO BE CREATIVE. They need to use their IMAGINATION.

History has proven over and again the timelessness of hobbies that use your imagination and creativity. For example, the study of music or the arts.

In an age where machines have taken over many of the repetitive aspects of secular work, modern man has become over conscious of the amount of effort he should put into his hobbies also. People who take up guitar complain of sore fingers and the work involved in learning how to read music notation. Twenty minutes of playing exercises wouldn't help the situation much either.

People who take up piano share the same problem with music, also complaining about the inherent lack of mobility. People who look to synthesisers see an electronic maze that looks like just too much work.

So, we want to be creative but we also want to get out of all the work.

If music making is one of the most popular ways for people to be creative, then I believe that recent developments have given us a musical instrument that fills the bill.

The solution 𝄞♪♪♫

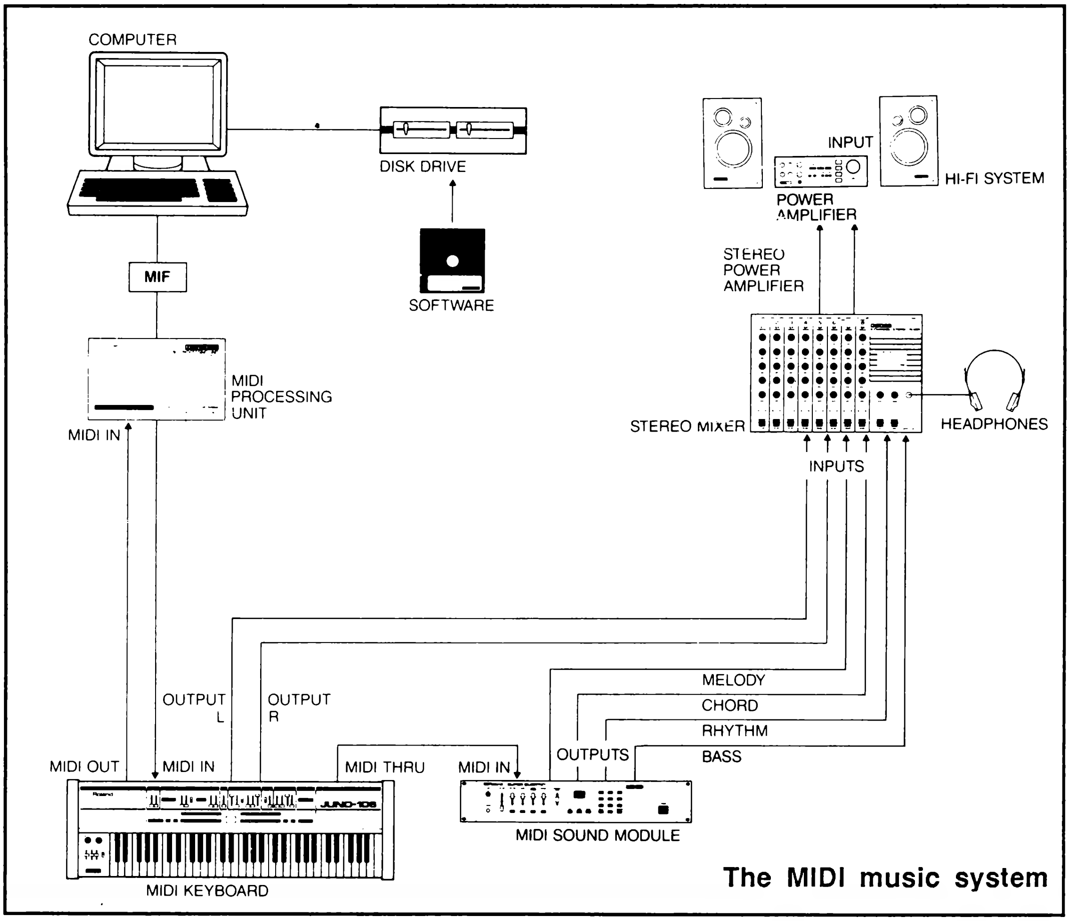
I will stick my neck out and predict the next home entertainment revolution to be a marriage between computers and one of the wonders of modern music, the sound module.

What nerve to make such remarks! How can you say that this will become popular when most people don't even know what a sound module is?

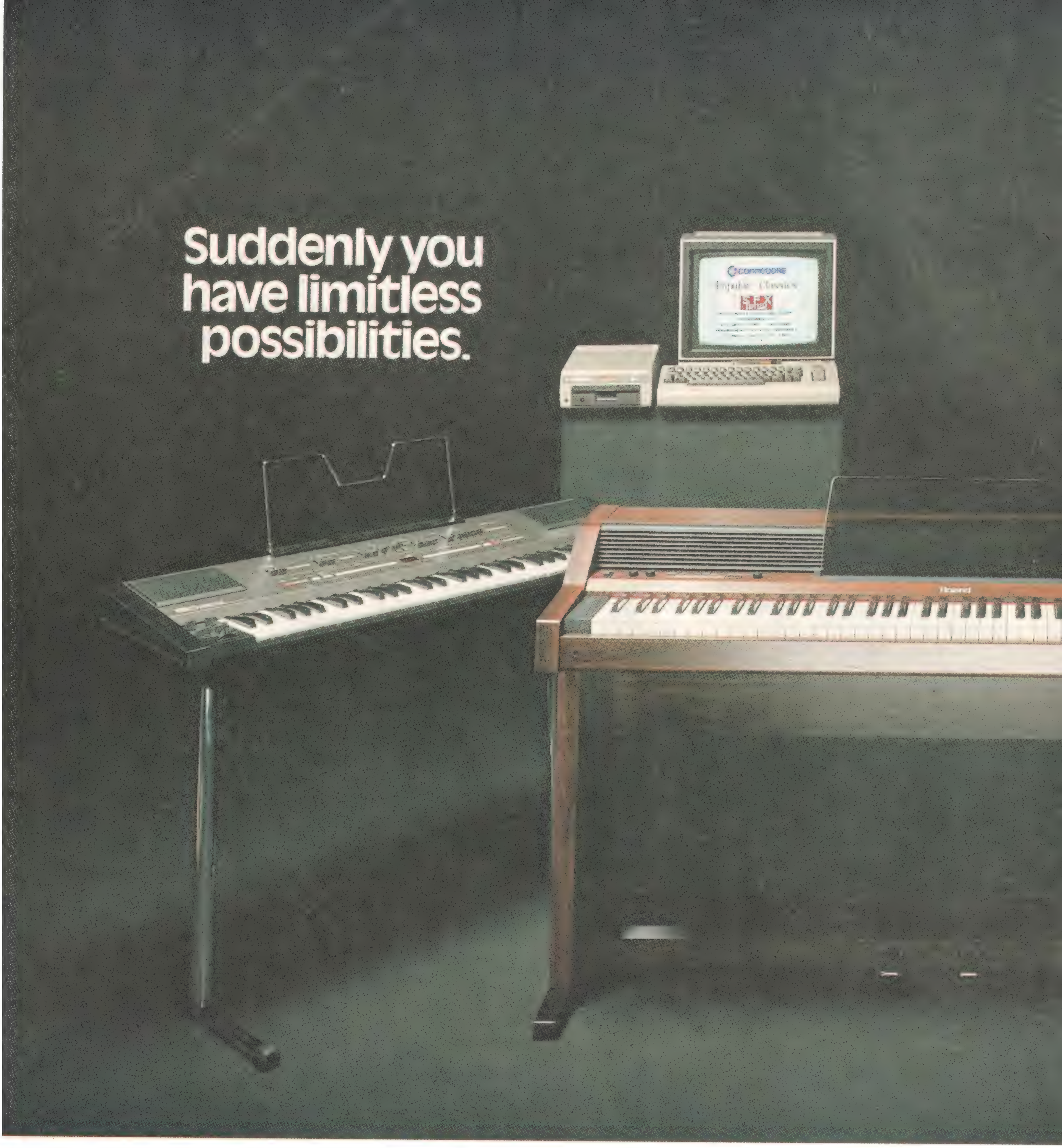
I admit this sounds like a sweeping statement, but before you jump to conclusions please let me show you how this combination provides the needed outlets for creativity and imagination while still being easy enough to use by most people, a prerequisite of any hobby that is to have a wide appeal.

Firstly let me introduce you to this instrument. It's called a MIDI music system.

(cont. on p. 26)



The MIDI music system



The building blocks of today's music are r
A keyboard that looks, sounds and plays like a
computer...You'll learn, teach, write, arrange,
record, entertain and explore the very future
sound barrier to Roland.

ready to journey with you to the future.
piano. Add a sound source and your home
orchestrate, multi-track
of music. Cross the

Roland
WE DESIGN THE FUTURE.
Get your hands-on upstairs at A.M.E.

DB 3002

It consists of a piano keyboard that is connected to a computer. The computer is then connected to the sound module. The sound module is then connected to your home stereo. Now let's look at what each part does.

The most important part of the system is the sound module. This is where all the sounds are produced. And what marvelous sounds can be made! In a module I recently used there was a full set of digitally recorded drum sounds, a variety of bass guitar sounds and an amazing array of synthesizer sounds. Yes, all in a little box.

The computer is used to do all the switching that is needed for you to be able to use the sounds. All there is left for you to do is to play the sounds by using the piano keyboard. This is called the system controller and will be used to play drums, bass guitar and synthesizer.

It is at this stage that I should explain MIDI. This electronic language, if you could call it that, enables the keyboard, the computer and module to talk to one another.

What can I do with this?

Let me illustrate just what incredible things can be done by using even the most basic system.

This would consist of a Apple II, a small electric piano that has the capacity to be hooked up to the Apple by MIDI, and a sound source just like the one we have allready had a look at.

What do you want to do next? If you would like to learn how to use the gear you could get some educational software, or if all goes well you will be able to look for the Music Workshop in our future issues. The advantages of learning by using the computer itself are phenomenal. Depending on the program, you could be learning faster than if you had your own private tutor, and be working at your own pace, whenever you feel like it.

"Incredible things can be done by using even the most basic system"

Once past this initial stage the door is opened to the real world of music making.

Let me give you an idea of what is in front of you.

Let's make some music

Say you want to record your own song. To do this you need the right software.

The computer, after loading the program, now tells you that it is in standby mode.

Firstly, let's put down a rhythm. To do this you must get the computer to access the drum part of the sound module. To your amazement, each key of your electric piano has now become a set of drums. By putting the computer into record mode, you set up three minutes or so of your new song's rhythm track. Next you get the computer to fix up your little mistakes, whether they be large or small.

Now that you are happy with that, you go into standby mode again and get the computer to access the synthesizer part of the module and your keyboard reverts to being its old self. The computer now plays back your drum track while you experiment with chords from the module. Once happy with that, you record it and set yourself up to do the bass line.

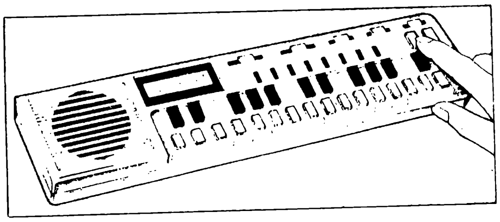
Once again, you get the computer to access the bass guitar sounds in the module and record that. Finally, you can do an improvisation over the top using another synthesiser voice from the module. You can either do all these things by ear or, as in some programs, you can write it in as music notation.

If you were sitting where I am sitting, you would agree that this is a turning point in music making. Now let's think about this. Here before us is one of the most creative musical instruments ever devised that can be setup and used by most anybody.

We of the twentieth century have become a bit complacent about really tremendous advances. Do you know that what is being offered to you now, has cost serious musicians thousands if not millions of dollars in the past.

Video games are great, but this is really serious creative stuff.

Contributing factors


Digital synthesiser

Besides the natural appeal of something that sounds so great and is so easy to use, there are other reasons why this new hobby should really take off.

Already there are thousands of computers out there waiting to be used that can do the job required. Also, there is the great probability that most of these very computers were bought for home entertainment in the first place and the prospect of making music with them will be seen as a fantastic way to make further use of their owners'investment.

On top of that there are thousands of people out there who are familiar with, or have, pianos, organs or synthesisers who would jump at the opportunity to explore this wonderful new concept, especially since it has all the benefits of what they already have. At a fraction of the cost with the added benefit of nearly limitless musical horizons.

For the investment of the price of a piano, anybody can far surpass their wildest musical dreams.

The future

There are two things that could happen, or any degree in between these two extremes. On one hand we could have this technology wasted on a handful of serious musicians, or else, we could see this idea taking off to gigantic proportions becoming, as I believe, a home entertainment revolution. People are familiar with using computers. People love listening to music and fantasize about being able to make their own. That's why we have these tremendous sales of organs, guitars and the like. So why wouldn't they all jump at the opportunity to make music that is so easy to produce and sounds so fantastic?

Imagine it, every second home with a simple system that would be a constructive, entertaining outlet for all members of the family. For too long entertainment with negative side effects has dominated people's free time. And this mentality can quite obviously be seen in the negative attitude of parents towards computer games. I cannot see why people who buy organs would not revert to using this system. Even piano players would be enticed by the setup because the sound modules that are becoming available sound better than most pianos. It would be sad to see an end of these instruments, but for those who want a simple way to be able to enjoy wholesome entertainment that demands a bit of creative input, why not?

The organ player

I was really surprised at the money people spend on organs. There are dozens of people who have spent $25000 on an organ that they don't know how to play yet.

An instrument that has been popular since the sixteenth century has taken its place in the Australian home. Why? Besides its brotherhood to the old favorite the piano, it was given different technological advantages. A rhythm machine that you could set to play samba, waltz or rock rhythms.

By pressing only one key, many notes could be played. So the technical ability necessary was reduced because of technology. That's why the organ sells. You can get a nice sound that can be automatically accompanied by simple rhythms or bass lines.

"The new sounds available from this system can make music for dad, mum or young Joe, the aspiring rock star."

Just as video took over from super 8 film, it is my anticipation that computerized music will replace the organ in the family home.

The great majority of electric pianos now, contain the facility to be connected with a computer as if in anticipation of the inevitable. And on the serious side of music making, we see the great majority of recording studios using computer technology to control synthesisers, drum machines and the recording machines themselves. Logically, this kind of technology will end up in the home.

For once, it looks as if the use of this idea won't have negative side effects. The spirit of the sing-along of old will be revitalised. It opens up new opportunities for families to be able to enjoy each other's company and achievements because the new sounds available from this system can make music for dad, mum or young Joe, the aspiring rock star. Can you dig it?

In a demonstration of the sound module from Roland, we were shown how classical music recitals for piano, as well as top 40 song arrangements, could be easily done. A variety that has never been available on an organ or piano before. For a fraction of the cost, even a musical tyrant could be kept happy.

The only problems I see arising are domestic disputes over who is to use the setup next.

For the serious musician

We realise a person who is serious about music would need a little more than an organ. These people spend a small fortune and plenty of time searching for a piano with THAT sound. One that has a nice feel and has the capacity for dynamics, meaning soft touch and heavy touch. After years of testing, electric pianos are becoming just as expressive with the development of touch sensitive keyboards and even dampening effects. I know musicians are a fickle bunch, but the possibilities described earlier of this new equipment will prove to be a startling simulation of all the things you like about pianos.

Conclusion

If people bought an Apple for home entertainment, then the possibilities of this system will most likely succeed where most video games have failed in providing all the family with some good home entertainment.

On the other hand, if you are sick of the sounds of your organ and want to explore incredible new areas of music, please feel free to inquire of us directly.

If you are a musical purist, the technology and flexiblity of this wonderful little package will most assuredly impress.

If this idea does hit home it could mean a second wind for home computers and serve as a breakthrough for the enjoyment of hobbies in the home.

Hammond Organ: the grandad of organs used by the Rolling Stones on theSticky Fingers Album and the Beatles on She's So Heavy

Further on this, we at *Australian Apple Review* are arranging to have a workshop based around standard equipment like the setup mentioned in our example. It will consist of a workshop article in every issue covering the setup and use of a MIDI controlled music system.

At the moment, in the big organ warehouses in Sydney's western suburbs, there are displays of this type of gear. Although there doesn't seem to be the same anticipation of the prospects that we foresee at the magazine, all the signs are pointing towards this MIDI based system as being a significant breakthrough.

We would really like to know just how many people are interested in this wonderful new area of music. Maybe we underestimate the amount of interest there already is in this subject.

As bait, we are offering a prize this month of a MIDI interface and software package from Roland to one of our lucky readers this coming month. See the Roland article for details.

So, for all you hackers out there, who are looking for something new, why not enquire of us further at the Australian Apple Review. Even though these are early days as regards this new concept, companies like the Roland Corporation are counting on the success of these ideas, and are set up to help the public take advantage of this wonderful new era in home entertainment.

THE FUTURE: APPLE AND THE MUSIC INDUSTRY

by Ric Richardson

EVER SINCE the 1985 Personal Computer Show in Sydney's Centerpoint Tower there has been a consistent exchange of information between our office and a company that stole the show, as far as I was concerned, with its display of the use of music software.

The company is the Roland Corporation. A business centred on musical instruments and amplifiers, that has also got its own line of computer peripherals.

Most of the employees enjoy their jobs because the great majority are muso's, this making it a hive of activity as well as serving to accelerate the development of new ideas. One such is the concept of linking computers to musical instruments, in fact most of the ideas described in the previous article had already been anticipated and developed. It was most comforting to know that my ideas have viability in the eyes of other people.

In the course of time an opportunity to investigate behind the scenes arose and this interview is the result. David Stephens, the Director of Sales and Marketing, arranged for us to do the interview in what could be termed a miniature recording studio, with a computer as the main workhorse. As well he had a mind boggling array of software, examples of which we will look at later. During our discussion I will do my best to explain the technical terms used and elaborate on key points. So here goes.

DS: Let me start by looking at the ideal that many computer companies have, which is basically to get a computer into every Australian home.

The problem is that when somebody finally gets the computer home, they gradually become discontent with just playing games and either get into programming or using the computer in other areas that are not really classified as entertainment. That is where music, we feel, becomes important. Everybody wants to be able to play a musical instrument and this pastime has no limit to its entertainment value.

RR: I agree. We see this with people who own organs and things like that. People like to do something creative in their home.

DS: That's right, except we are aiming at providing much more creativity. The problem with the organs and those automatic keyboards is that after you've had them home for a while they become boring. There's a limit to the creative potential. There is nothing worse than playing the same old boring accompaniment pattern over and over again.

Roland's equipment can be had with the same kind of investment, the price you pay is much the same. But the sorts of sounds you can create are phenomenal.

RR: What is the minimum you have to pay to have a MIDI controlled computer setup such as you are describing?

DS: First you need a MIDI controller. This can be an ordinary electric piano fitted with MIDI. You can get something suitable from Roland for around $1000. Then you need whatever computer you are going to use.

RR: Which is, in this case, the Apple II series.

DS: Next you need some software. Roland sells their own brand of software for the Apple, covering most of the applications that you would need for a MIDI music system. Most likely you will be looking at around $300.

So having got that, you will need an interface which will link the computer with the MIDI instruments. These are not expensive. You can pay anywhere from $89 to a few hundred dollars depending on the sophistication you require.

Then you need sound sources, they can be an old CV Gate synthesizer that you already have, because you can run most of them using a MIDI to CV converter, or it can be a new module like the Roland Super Quartet that provides you with drum sounds, bass sounds, chord accompaniment sounds and melody all in one package, for $1600.

(Just like a MIDI system a CV gate synthesizer is set up so that it can take instructions from other sources. MIDI is a recent development that has been agreed upon as the new standard "language" if you like so that instruments and computers can send messages to one another.)

RR: How does that compare with organs?

DS: Well, for anything decent in an organ you're looking at three to four thousand dollars, and for less money you can have something that is infinitely more creative in modular form. And then the sky's the limit.

It is easy to update because it's modular. I think that's the key to the future. You see, modular creative music

Herbie Hancock "live"

systems are in their infancy and we see this hobby really growing in the home.

The flexibility to upgrade on outdated equipment will be a necessity.

RR: How elaborate can you get with this kind of setup?

DS: You can have very simple four part arrangements of top 40 pop music songs right through to classical pieces.

RR: What about songs like those you are working on now, from guys like Nik Kershaw and the fellow who wrote that song for the movie "*Beverly Hills Cop*"?

DS: That piece is called "Axel F". The point is that if you can play it, no matter how slowly, or type it into the computer, you can change the arrangement to your heart's content. And the equipment is so easy to use that songs like "Axel F" are really no big deal to play.

RR: Do you know of any bands that are using computers "live"?

DS: The band we used in Melbourne uses them all the time on stage. Actually there are quite a few bands using computers "live".

RR: What criteria is there for what the computer must be able to do?

DS: Usually they must use something that will load a song a bit faster than most home computers, as for live shows you only have a short break between songs. You really need the capacity and speed of say an IBM or an Apple.

RR: Can we have a few details on how this technology is used?

DS: Well, for example we have the band we used down in Melbourne to demonstrate our new equipment. They are called "Short Circuit". The drummer, Trevor Courtney, played digital drums, the bass player played a MIDI equipped bass synthesizer, the guitarist a guitar synthesizer, and the singer played drum pads all conected through MIDI to sound source modules which were in a rack out the front of the stage.

Each of the musicians were using their instruments as controllers for the remote sound modules that actually produce the sound. But when they play clubs, for instance, Trevor the drummer will have already pre-programmed his drum track and will often play a keyboard part instead. The same is the situation with the other players.

By pre-programming parts each player is free to do more elaborate and creative

Warren Cann, one of the first to use computers to control his drums things with the music. So from just a few musicians you can create a very large impressive sound.

RR: That's what the keyboard wizard Herbie Hancock did. He prerecorded a barrage of parts and then replayed them in concert, only playing the lead synthesizer.

He got some flack because he had all this sound coming at his audience when he was only playing one instrument.

DS: Yes, but the thing is that the musicianship all goes in ahead of time. Someone still has to play all that. The beauty of using a computer is that it can capture every nuance of what you play.

You see sequencers were becoming very boring because they reproduced none of the feeling that tells you the music was played by a human, they sounded very mechanical. On the other hand the computer, like most modern sequencers, can capture everything that you do, how hard you hit the keys, as well as all those little timing errors that give the music that human touch.

That's why we have for the first time the ability to record classical piano pieces that have all the aspects of a proper recital. Something impossible to do in the past.

(Sequencers are a electronic device that records the sequence or order in which keys on a keyboard are played. This is set against a clock that remembers the timing of each noteplayed. In the end you have a device that will play at call and modify anything you want.It's like having a tape recorder without the tape!)

RR: And how big do you think this kind of thing will become?

DS: I honestly see it as the next revolution in home entertainment. Definitely.

RR: I can see that.

DS: Video-discs are the next thing to happen, but after the novelty of canned entertainment subsides, you will find that most people will want to be more creative than just passively listening to the music. With their home stereo system, a small computer and a few sound sources linked to an electric piano, they're in business.

RR: The old family singalong will take on new dimensions!

DS: Absolutely. Never has it been easier to make music. For instance, you can use a computer so that you can play music at half normal speed to make fewer mistakes and then speed it up for normal playing. Besides that, it can correct your timing even if some mistakes persist!

RR: So the joy of music making is available in a way previously only dreamed about. And all this for the price people pay for an organ!

DS: It's more than an option to an organ. This sort of thing offers an alternative to a piano, because fundamentally we are really expanding on the capabilities of a piano.

We have 88 keys, touch sensitivity, all the things that a piano provides you with. But then we can expand upon it, creating limitless possibilities.

So somebody could start out buying an electric piano with MIDI on it, hopefully a Roland HP450 or something like that, and then add a module, some software, their computer and watch out.

RR: It certainly sounds like there are huge possibilities.

DS: Another aspect I would like to mention is that say ten years ago, if you wanted a sound system, you would buy a box with the record player, tuner, amplifier, cassette and built-in speakers all in the one package.

Today our home stereo systems are modular. Each item is selected separately on the basis of their merit as a unit and your personal requirements. Compact Discs arrive on the scene and you can add one to your system, you're flexible. That's the beauty of the modular approach. If something becomes obsolete the whole system isn't a write-off, you can just update.

Exactly the same thing, we feel, is going to happen in the home music making arena. You used to go out and buy an organ with everything in the one package, drums, one-fingered chords, automatic arpeggios and many pre-programmed sounds. Now we see a modular arrangement, where you can add to your setup according to your needs and the kind of sound you want. If anything becomes out-dated you can upgrade with minimimal cost.

RR: What price cuts can we be seeing in the future?

DS: The technology is getting cheaper because the computer can be used eventually to do much of the work that is now being done by "buttons". Previously, a synthesizer was a keyboard with a whole lot of electrical gadgetry, controlled by a maze of switches and buttons.

Now one keyboard only need be purchased. Sound modules can be added and the home computer can be used to change the sounds on the modules, eliminating expensive controls. Now we only have to pay for the most important part of the synthesizer which is the signal generator.

RR: It looks as if we are entering one of the most interesting stages in music with this new equipment.

DS: Commercial interests aside, we are eagerly looking forward to what we feel is going to be the next revolution in home entertainment.

* * *

Besides our discussion, Mr. Stevens also demonstrated for us the various ways in which the different software packages worked. All I can say is that the capabilities of these are mind-boggling. Besides a variety of recording programs ranging from eight tracks with the basics to 12 tracks with heaps of extras, there are also programs that will use a printer to print out what you have played in music notation.

Also, there was an extensive library of tutorial software designed to help you use each part of the equipment. Seeing this diverse range of software at such an early stage in the growth of this new hobby, I caearly stage in the growth of this new hobby, I can only say that there are some fantastic opportunities for music making in front of us.

After we had covered these more serious points, we took the system through its paces by playing some songs that had been written on the equipment. Amongst them there were remarkably good sounding pieces that he wrote himself and some surprisingly realistic arrangements of songs written by musicians like Nik Kershaw. Even if it took you a decade to be able to play music like this, it would be certainly worth your while.

If people like David Stevens and companies like Roland had their way, these wonderful tools would be made available to every Australian so that making music is as rewarding as it ever could ever be.

Win Music Software plus an Apple MIDI Interface from

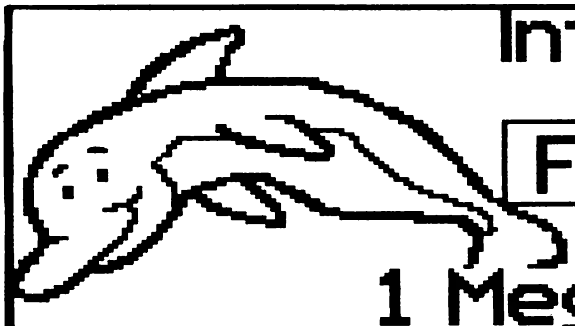
Roland

worth $520

All you have to do is clearly print your name, address and phone number on a piece of paper and send it to:

The Australian Apple Review
Music Competition
Top Rear, 4 Carrington Rd
Randwick, NSW 2031

Prizes consist of:
Software - Roland Music Recorder
Interface - Model MIF - APL



Introducing......

FLIPPER

1 Meg Ram Card !!!

FLIPPER is a 1 Megabyte RAM card - designed to the new Apple standard to ensure future compatability. Look at these features:

- Full 1 Megabyte of memory without the need for upgrades or clumsy add ons, with the facility to have up to 6 Megabytes in your Apple - simply plug in additional Flippers.

- Featuring the incredible Flip Flop Program Manager, allowing you to zoom between programs - data in various sections of the RAM disk (even if they are under different operating systems).

- The Flipper's speed will amaze you. Just see how you whiz through even the most sophisticated software. Versatility is the key - the Flipper fits any standard slot in the Apple //e or][+. Inbuilt self test diagnostics ensures optimum reliability.

- Forget patching, the Flipper is 100% compatible with all products (including Appleworks), DOS 3.3 & Pascal 1.3 software.

All this and a fantastic retail price of only $799. Can't wait to try it? Give us a call now - we guarantee you will be amazed by this state-of-the-art product.

THINKING SYSTEMS

180 Parramatta Rd, STANMORE 2048
Ph: 560 0666

Genuine one careful owner, fully serviced with log books - going cheap!

Australia's computer market is awash with orphaned machines looking for new owners. Although purchasing one of these pre-loved units may have its pitfalls, considerable savings can be made. ANDREW FARRELL investigates further to discover what you should know before buying.

SECOND HAND CAR YARDS have a distinct reputation which, thankfully, has no parallel when it comes to purchasing a second hand computer. Although the cost of entering into the world of computers has dropped dramatically over recent months, both home hobbyists and business people are discovering that a second hand machine may not be such a bad thing. The local market is only just starting to heat up, however overseas, specialist shops selling used computers have long been very popular.

"The machine should be available for testing and closer examination"

Even sceptics will agree that buying from a reputable dealer does have its advantages. He will normally be able to provide you with a warranty if need be. The machine should be available for testing and closer examination, which is important if you don't plan on getting caught with a lemon.

Prices vary greatly with the units condition and extras that are included. Most second hand buys are only available as complete systems, including disk drives and a monitor. Normally this will also include software bundled in to clinch the deal.

"Hardware usually decreases in value fairly rapidly"

Some discretion is needed in this area, as legally only original copies of programs may be sold. The previous owner should also have destroyed any archive copies that were made. Software prices vary greatly, depending on the quality and or existence of documentation.

The classifieds of computer magazines and newspapers are a good place to start looking, however all too often going rates tend to be inflated by sharp falls in the current retail price. Recent buyers do not quickly realise the falling worth of their equipment, and as a result tend to ask exorbitant amounts.

However, it is true that the Apple II maintains its second hand value better than any other machine - provide it is the genuine article. And therein lies the problem. Fakes abound and the advertisments sometimes are quite misleading.

If you are in any doubt as to whether a machine is a genuine Apple look for the registration plate under the machine and look for the name of Apple correctly stencilled on the motherboard and the power supply.

Including the supposed value of software owned may not necessarily reflect a good buy, as old games tend to hold little or no value.

Likewise, business software that will be of no use to you is pointless owning. Be aware of what you really can use and need. Most of all, close inspection of the prospective devices is a must.

Things to watch for when buying are numerous. A few simple tests can reveal if any major problems exist, however smaller hassles often surface once the machine has been purchased. Disk drives become noisy and unreliable as they near the end of their working life.

"It is true that the Apple II maintains its second hand value better than any other machine - provided it is the genuine article. And therein lies the problem"

Be sure to load up a few programs to ensure all is well. If the drive has problems reading some disks, the head may be out of alignment, which may be an expensive adjustment to have made. A unit that has been recently serviced should be running perfectly. Most computers which have a drive test program will confirm the devices condition.

Keyboards are also prone to heavy wear and tear. Check each key noting any which may appear difficult to obtain a response from. Typical characters to receive extra wear are the letters E, T, A and S. The previous owners may not have kept smoke, food and liquids away from the computer. A quick glance between the keys will tell where the unit in question has spent most of its service years.

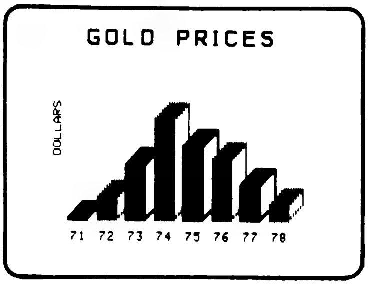
Often taking a friend along for a second opinion can be a great help - preferably someone with a good knowledge of Apples.

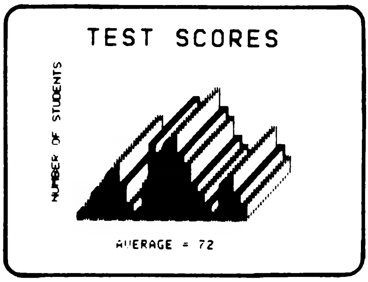
SPECTRAL GRAPHICS SOFTWARE

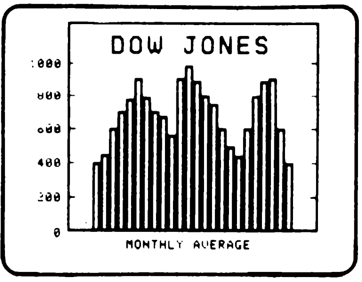
P.O. BOX 134,
BEENLEIGH. QLD. 4207.
PHONE (07) 287 5010.

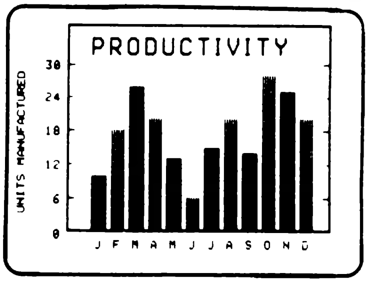
MasterChart!

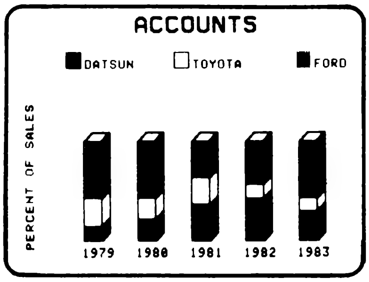
TO ALL APPLE II+, IIE & IIC OWNERS

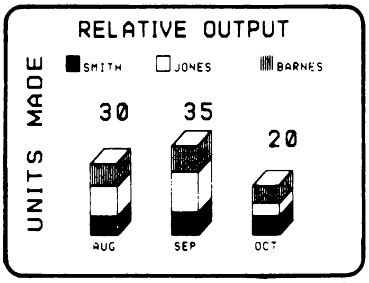


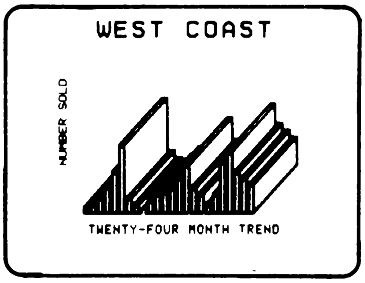


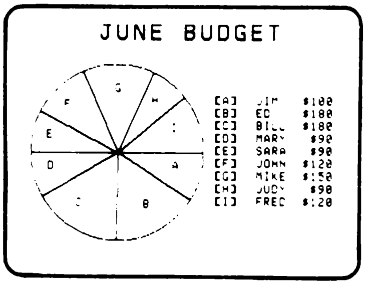


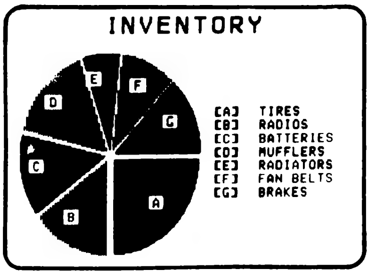


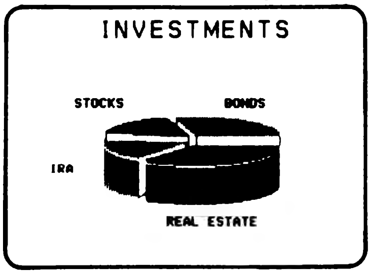


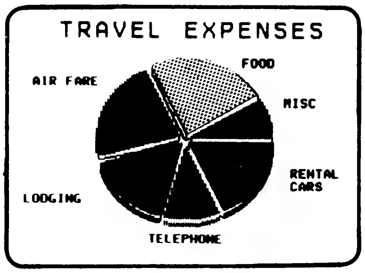


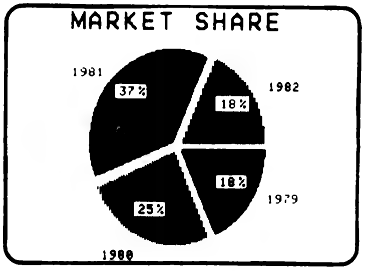












Don't pay more for less! The pictures shown above are examples of charts created with MasterChart!, perhaps the most powerful and friendly Apple II chart program on the market. Within seconds, keyboard-entered data can be converted into picture-perfect pie or bar charts, in 26 user-selectable styles, automatically scaled and labelled, and in color or black and white. And if you want to customize your charts by adding extra artwork or text, or display them in a slide show, MasterChart! comes with these valuable extras....

A slide projector, for orchestrating automated, stand-alone screen presentations of a series of charts, timed and sequenced by the user. This program alone is worth the cost of the disk. It can be used with any graphics files created with any program.

A graphics editor, for alteration and embellishment of charts. Besides standard point-by-point sketching, built-in structures permit pushbutton creation of circles, rectangles, lines, shape-table shapes, and exotic woven plaid patterns. If you wish to add clarifying text to the charts, you may type on the screen in several different letter font styles. For the artist, the graphics editor can also be used to sketch any imaginable scene from scratch.

A shape table editor, for creating special shapes for your charts. These shapes can also be used for animation in your programs! A sample animation program shows how to do it.

"I noticed the advertisements for Spectral Graphics' MasterChart! program and figured that, with a money-back guarantee, I would try it. Boy, am I glad I did! This is a fantastic program. You can master its many varied capabilities in less time that it would take to describe them. I would recommend it to everyone, even if you have absolutely no need for a graphing program. It's just fun to play with"
S.A. Smith, letter to SOFTALK, June, 1984, page 14.

"This software does much more than the advertisement suggests. Without question, this is among the best buys in software that I have ever come across, and certainly among the best written. It is extraordinarily easy to use, very well thought out, and priced to kill your competition (which I wish you every success in doing).
Anthony J Scriffignano

Please complete and return to

SPECTRAL GRAPHICS SOFTWARE,
P.O. BOX 134
BEENLEIGH, QLD. 4207

Name: ____________________

Address: ____________________

____

State: ____________________

Postcode: ____________________

I enclose my cheque / money order for $78.95. (inc. post. & handling)

If not completely satisfied, MasterChart comes with a (30) day unconditional money back guarantee.

Always be sure you are given the necessary leads, power supplies, manuals and a receipt stating the amount paid and warranty period - if any.

Second hand stores may be a good source of spare parts. If you are electronically minded, old VDUs may be an inexpensive answer to your monitor needs, however be sure to see the unit working before making a decision.

> "Always be sure you are given the necessary leads, power supplies, manuals and a receipt"

Monitors have a nasty habit of deteriorating rapidly in quality once they near retiring age. Common problems are: high voltage drop outs, causing the screen to occasionally shrink; voltage variations, causing strange distortion and headaches if used for long periods of time; and deterioration in the sound amplifier where fitted.

Printers are also available in plenty on the second hand market. Ranging from humble printer/plotters to 500cps main frame monsters. Ensure the unit has all the right interfaces included, as there are some variations around. Do a print test and watch for any dots missing on certain letters. This may be an indication that the print head is damaged or worn - an expensive item to replace.

Stepper motors also wear out, causing sluggish line feeds, erratic spacing and overprinting. Try outputting about 40 lines of text for a simple test of any of the above problems. Loose components, broken paper releases or tractor feed sprockets can be a big hassle later on.

Modifications

Sometimes the previous owner may have carried out small modifications to the Apple's standard design. This may be in the form of a memory upgrade, or an internal interface of some description. Establish exactly what is hidden inside the casing.

Bodgey soldering, loose wires and badly planned additions are worth watching out for. Even a simple change may be turned into a maze of messy cables and connections with dry or cracked solder joints if it was carried out by an inexperienced person.

Establish whether the unit in question was modified by the user, and if so, the quality of the job carried out. It doesn't take an electronics engineer to spot a blatant lack of dexterity on the previous owners part.

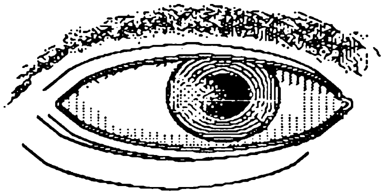
All this should be kept in mind when assessing the Apple's true value.

Never accept the advertised price as most owners and dealers ask far more than what they expect to get to allow for bargaining.

I contacted a few dealers to discover the extent to which second hand stores are operating in Australia. It appears that they are few and far between, although many dealers do have second hand units from time to time.

> "There is plenty happening on the second hand scene"

One shop that is doing big business in used computers is the Computer Exchange, in Chippendale, Sydney. Kass Mahdovi, store manager, believes that there is plenty happening on the second hand scene.



He deals in everything from $200 micros to $10,000 mainframes. With experience like that, the Computer Exchange seemed like a good place to start. They have a full showroom set up, where potential buyers may view the offerings and test or examine the machines on display.

The Exchange doesn't handle many of the smaller computers that have seen better days, such as the Sinclair, TI, Atari and Vic 20. However, the Apple II is an ever-popular machine.

Most Apple computers are mainly on consignment from private owners who display their computer in a special area. For a commission of 15% the Computer Exchange are happy to display whatever you have to sell.

> "Smaller computers don't really have much appeal, and hold little value."

An Apple IIe with disk drives and screen may fetch $1500 to $1700.

You may also purchase disk drives and printers ranging from the smallest to the largest. A Corvus 10 megabyte hard disk sells for $800-$900 - and a five megabyte version for $500-$600. Single floppy drives are available for as low as $150 brand new. Occasionally people import a peripheral before they realise that it won't work on their machine. Thus many items are sold in original condition.

Of course, the onus is on you to make it work with your computer, so take care. Unless you know exactly what you're after and what you're getting, you have little chance of connecting alien peripherals successfully.

The printer range starts from as low as $90 for a Brother HR-5, up to $5000 for a large line printer. MX-80 type clones sell for $300-$400 brand new. With all hardware, a warranty is sometimes included, but normally available as an optional extra.

Warranty periods start at seven days and extend to one year. $50 will buy you a six month service contract on an Apple IIe - with amounts varying from unit to unit, depending on their condition and included extras. Heavy duty expansion cards and the like tend to add a lot of overhead to warranty costs.

The question remains - is a second hand machine a good buy? The answer appears to be a guarded yes. Take, for

example, our Hong Kong office. There we have a Macintosh and a new Apple IIe owrking furiously away.

We desperately needed another Apple and for all sorts of good and proper reasons we would not have a fake Apple which in Hong Kong, abound.

So we bought a secondhand machine at a reasonable price - not as cheap as we would have liked but not as expensive as we feared.

It has now been running for just over a year with no problems whatsoever - except for one strange and curious thing. The skin of the case is peeling. Just as if it had sunburn.

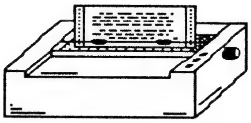
Rest assured that this is a genuine Apple and the problem is only cosmetic. Bit strange, though.

Apart from that it hasn't given a hiccup.

The second machine we can point to was bought in England - in the Tottenham Court Road in London, if you must know - in 1978. It still has the original red handbook and the keyboard is curved with the amount of battering it has taken. Yet it still works, and works well. In every case where we have had trouble it has been with cards and peripherals - never the basic machine itself.

With a little care and thought, buying a second hand computer can be a great way to get into micros on the cheap. As long as you know what to look for, chances are that a tried and tested machine will work better anyway. Additional savings can be made in the areas of software and expansion, however take care as some owners may have done all sorts of strange things with the internal workings of your next computer.

Happy shopping!



NEW RELEASE

EDUCATIONAL DISPLAY
IDEA PROCESSOR

THE WORD MACHINE

THE WORD MACHINE is an ideal medium for the presentation of complex educational or training material. A selection feature (with menus) allows viewers with no computer experience to find the information they want.

THE WORD MACHINE is also a scratch-pad, you can outline, expand, organise, restructure and view your ideas and plans, from different perspectives.

Once your ideas are in order they can be displayed, printed, or sent to a standard APPLE II text file for word processing.

THE WORD MACHINE builds layers of detail in a structured way. Each word of text is treated as though it were a keyword in a relational database. You can track it throughout the text quickly and simply.

THE WORD MACHINE is a relational database for text, featuring:

- Hierarchical access to text
- Multiple windowing of the screen
- Scrolling of text within windows
- Fast and easy editing
- A text compression system, freeing-up memory
- A unique word-linking process
- Every word a key word
- Fast disk access
- Optional 80 column cards
- Optional RAM card support
- Standard printer output to any slot

THE WORD MACHINE requires:

Optimum - APPLE IIe, IIc or II+ with Language Card and 80 column card [APPLE, Didgicard or Vision 80]
Minimum - 48K APPLE II+ with single disk drive.

INTRODUCTORY OFFER: $85 (rrp)
Demonstration at your APPLE dealer

TROLL MICROSOFTWARE
PO Box 21 LYNEHAM ACT 2602 (062) 474460

WESTDATA COMPUTER SERVICES
TRADING AS
WESTMAIL
PROFESSIONAL MAIL ORDER SERVICE

ORDERS TO:
P.O. BOX 523
PENRITH N.S.W. 2750

FOR THE LOWEST PRICE
AND RELIABLE SERVICE

047-738297

THIS MONTHS SPECIALS;

GRAPPLER PRINTER INTERFACE	$90
EXTENDED 80 COLUMN CARD	$119
Z80 CARD	$90

PLUS $3.50 POSTAGE

8 ALLEN ROAD, MULGOA N.S.W 2750

WORKAHOLICS REJOICE. NOW YOU CAN DO EVERYBODY'S JOB.

There are now more than 550 software programs available for the Macintosh computer.*

Many of them wholly and solely devoted to making your working life more productive.

And there are hundreds more in the pipeline.

There are word processing programs with different typestyles and sizes that make reports and memos more memorable.

(Particularly when they're printed on our new LaserWriter printer, which produces publication-quality text and graphics.)

Data management programs that incorporate graphics to make your data even more manageable.

Spreadsheets that help you forecast, budget and analyse. Without sending you to an analyst.

Business graphics programs that turn rows and rows of numbers nobody understands into charts and graphics everybody understands.

Data communications programs that put a world of information – like stock quotes, yesterday's sales and today's business news – right at your fingertip.

Along with programs that no other office computer system can touch.

Like Microsoft Word, Living Videotext's ThinkTank 512, Omnis 3 by Blyth Software and the just-released Jazz from Lotus.

And our own MacProject, which creates sophisticated "critical path" charts that threaten to put common status reports on the endangered species list.

But more impressive than the sheer number of programs for the Macintosh is the sheer ease with which you can use them.

Thanks to Macintosh's windows, icons, pull-down menus and mouse technology, every Macintosh program works the same way. Learn one, and you've learned them all.

Which means not only will you have more time to do your job, but everyone else's job too.

(We said we'd make you more productive, we never said more popular.)

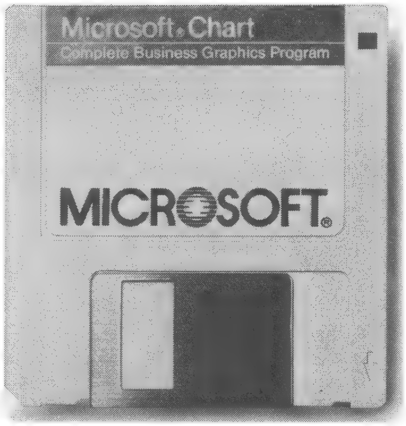
Apple

Visit us at Macworld Expo, 6-9 Nov, Centrepoint, Sydney.

AP 183/Palace/R

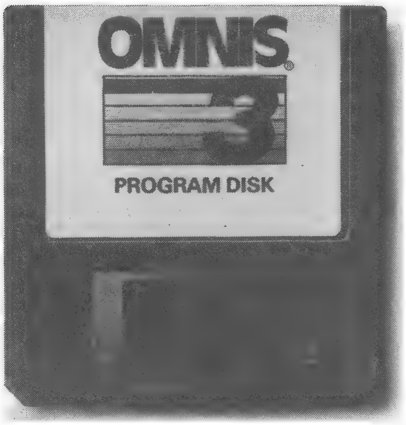
For the authorised dealer nearest you, outside Sydney call toll-free (008) 221 555, or Sydney 908 9088. Apple Credit Card, available at participating dealers to approved customers.

Lotus Jazz. Integrated word processing, business graphics, database management, data communications and worksheet.



Microsoft Chart. 42 different charts and graphs for presentations, sales reports and transparencies.

MacBusiness. Gain overall financial control of your small business with this integrated, intuitive accounting program.



Omnis 3 by Blyth Software. Single or multi-user data base manager featuring multiple file management and user definable menus.

PFS: File. Store and retrieve mailing lists, client records, collections, schedules and inventories.

MacProject. Create complex "critical path" flow charts for production schedules, timelines and managing projects.

ThinkTank 512. An idea processor to organise projects, manage details, outline ideas and support decisions.

Microsoft Multiplan. Electronic spreadsheet for budget forecasting, business planning and "what if" analysis.

PageMaker by Aldus. Design newsletters, brochures, training manuals, presentations and more.

Apple Computer Australia
Macintosh-
MacVideotex
V1.0
© NetComm (Australia) Pty Ltd 1985
© Apple Computer Inc 1984, 1985

Do's and Don'ts *of Computer Use*

If you have recently purchased, or plan to purchase, a new Apple computer, or perhaps you hope to receive one as a holiday present, then you will want to heed these tips by JOE ROTELLO on how to set up your micro and keep it humming.

BFEFORE YOU INSTALL your first home computer or upgrade an existing system, it is important to consider the environment in which the micro will operate. You should ask yourself and answer the following questions before you set up your microcomputer:

* 1. What am I using the computer for?

* 2. Where will my micro be located, and what precautions should I take to ensure a successful installation?

* 3. How and where will the accessories and supplies be located?

* 4. What happens when I want to change or expand the existing setup?

* 5. How can I limit data and financial loss should the unthinkable happen?

Home computer users defend their lack of computer planning by saying, "It's not worth the extra planning" or "I can always take care of those items later." Funny how may times we wish that we had taken that extra hour or so for planning, and how "later" never really seems to come in today's rush world.

Purpose

The reason you selected your Apple computer in the first place plays an important part in the entire computer installation. For example, was it for a home use like database interfacing or an educational aid for the kids? Different purposes may dictate a different approach to questions 2-5.

How use affects installation is, perhaps, best described by a couple of examples. For example, if you use on-line database services like *CompuServe* or *The Source*, you must have access to one or more telephone lines now or in the future.

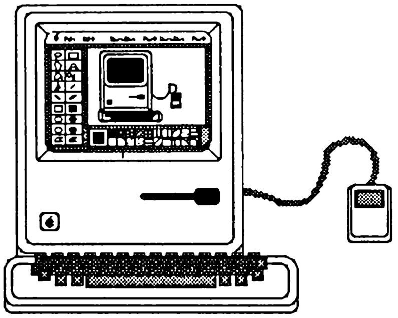
If you plan to expand your system with floppy or hard disk drives, printers, plotters and other accessories, you will have to accommodate these items, as well as paper, disks, power outlets and other required basics.

The difference between a well thought, intelligently planned and coheisive system with clearly defined growth paths is the difference between order and chaos. If you have little or no idea why you bought your Apple in the first place or how you intend to use it, how can you effectively plan for it?

You must allow for the fact that the personal computer is a multi-faceted peice of equipment. It is not like a car which serves one purpose at a time. Once you define the computer's purpose, only then can you proceed to the next area of concern.

Provisions

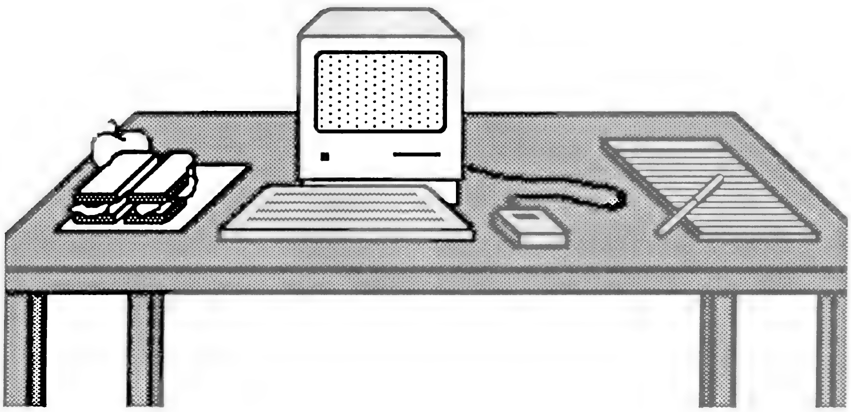
Items you might consider under the heading of provisions include general location, ventilation/ heating/ cooling systems, proper lighting and flooring, computer furniture and availability of sources of clean electrical power and telephone lines.



The very first step is to size up the overall room or area where the computer system will be located. Questions to ask yourself regarding location include:

1. Will I have sufficient working room, especially if I add to the system later? What about sufficient storage room for supplies?

2. Is the area well-lighted but not so brightly lighted that glare off the video or TV screen will become a problem? Is the the area cooled/ heated to the extent that the computer (and you) will not overheat, freeze or suffer from lack of sufficient ventilation?



3. Are there sufficient electrical outlets? What about other household appliances? Are any outlets in the computer area shared with any other electrical noise-producing machines like air conditioners, heating devices or universal motor-driven devices like sewing machines?

4. Where are telephone lines and outlets located? If necessary, can they be easily modified to interface with the computer and its modem? Are there any extensions on the telephone line?

Problems associated with poor lighting will take their toll later, after the system has been used for an extended period of time. Take the time now to detect and solve these problems.

Rearranging existing lighting or installing track or fluorescent lighting may solve the lighting problems. Carrying out such improvements now will be very time and cost-effective. You won't have to fix the lighting at a later date when you will be too busy to do anything about it anyway. And your vision will not suffer from poor lighting and many hours spent squinting at the computer terminal.

Problems such as lost data, periodic computer shutdowns and the like can be avoided if you take the time to survey the area, its power outlets, and prospects for clean power before setting up your Apple.

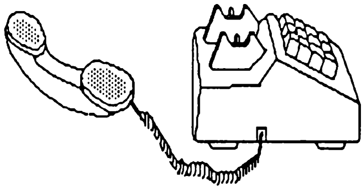
"Problems such as lost data, periodic computer shutdowns and the like can be avoided"

Be sure to put each computer or peripheral on its own power outlet, or, better yet, install a multiple power outlet so that each item has its own outlet, yet the entire system can be controlled from one master switch. You might also consider purchasing a low-cost power-line conditioner to reduce or eliminate any power-line problems.

Speaking of Telephones

With the ever-increasing use of telephone modems, it pays to take a close look at how your telephone relates to the computer system. Place the telephone in a convenient spot and try to have a private, non-extension phone line. (Picking up an extension phone will terminate your computer data transmission).

(Please note: the higher-speed 1200-baud modems work with standard phone lines such as those feeding most homes, even though the modem data speed itself has been increased. In the past, such high-speed modems only worked properly if the phone lines were conditioned or rented expressly for modem use from the telephone companies. That is generally no longer the case, since the technical quality of phone lines exceeds that of even four or five years ago.)



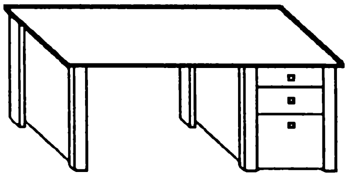
Computer Furniture/Tables

Next, consider the following questions before installing tables or computer work stations.

1. Is the table and video monitor platform at a proper and comfortable working height? Is the table area large enough for the micromicro, video monitor, printer, disk drive and other accessories that you will be using?

2. Is the printer within easy reach to connect cables and change or remove paper?

3 Are the tables sturdy? Will they support at least 35 percent more weight than they look like they will?



In short, be sure to get firm, will-assembled furniture. It does not have to be expensive, just well-connected and sturdy once assembled. Don't ever overload a piece of computer furniture regardless of how well it may seem to be constructed.

Always plan for computer furniture expansion. Someday - and a lot sooner that you think - you are going to add to -your setup. Don't run out of table room today for something that you will do tomorrow.

"Don't ever overload a piece of computer furniture"

Flooring

Computers are remarkably sensitive to static electricity. The type of flooring that you use is very important to the life of your micro setup (not to mention your sanity and mental well being).

Cushioned vinyl flooring is quiet, attractive and easy to care for, but expensive. Carpeting composed of naturally low or non-static material can be used as an alternative.

Another method is to install a large antistatic mat over the carpet under the immediate computer zone. The electrically conductive plastic mat is grounded via a small slender wire to the power line electrical ground and is perhaps the best safeguard against static.

Another option is to locate one or more antistatic buttons or small conductive foam pads on the computer furniture. These items are also grounded and act to drain off any static charge that you may transmsit to the equipment.

Most importantly, when using anti-static products, make it a habit to discharge yourself before touching a piece of equipment. Although it seems all shoes carry some type of charge, try not to wear those with man-made soles of smooth or hard rubber. They seem to be the worst as far as static is concerned. On the other hand, Hush Puppy or other similar soft-sole shoes seem to be best.

I do not recommend the use of antistatic spray except in emergency cases. The effectiveness of the spray is temporary, and the dry chemical mist can sometimes find its way into disk drives or other equipment.

Accessories and Supplies

Computer accessories and supplies like paper, disks, printer ribbons and other material form the lifeblood of any micro system. Bad supplies can lead to computer self-destruction.

First, take a good look at how and where you will store unused paper, blank disks, tapes and new printer ribbons. A clean, fairly cool, dust-proof storage environment for these supplies is essential for the preservation of the paper and disks, but also to the proper overall operation and well-being of your micro equipment.

Properly covered disks, preferably in their own sleeves and boxes, should be able to stand up on shelves or in drawers. Excess paper stacked vertically so as not to curl or bend.

Operational procedures play an important part in the successful setup and operation of your Apple. Use this computer do's and don'ts checklist to ensure that both computer and you operate without breakdowns.

DO...

- Provide adequate natural or fan-forced ventilation for your Apple.
- Keep new and in use disks and tapes away from any magnetic source.
- Vaccuum on a regular basis, keep unnecessary windows closed and cover equipment when not in use.
- Quit banging on the keyboard.
- Use computer disk and other components as if they were the last ones in the world.
- Get the user manual out of the garbage, read it at least once and keep it within reach.
- Maintain or have inspected at regular intervals any part of the micro system subject to any wear and tear.
- Select chairs and desks so that you do not tire quickly or have to squint at the video display.

DON'T...

- Store or operate your Apple system in heat or direct sunlight.
- Store disks near motors, telephones or other magnetic sources.
- Allow accumulation of dust or smoke particles to collect on or near your Apple.
- Use any new equipment without reading the user's manual at least once.
- Let disk drives, printers or keyboards get dirty or stay broken too long.
- Use uncomfortable chairs or desks that are of improper height.

To keep printer ribbons, tapes and other accessories from drying out or being contaminated with dust, store them in sealed plastic bags or other moisture-proof packaging.

"Handle the micro setup, accessories and disks as if they were the last ones in the world."

Never store computer hardware, accessories or supplies in the sunlight or near a wall or space heater. It seems that just about anything connected with or to computers has a nasty habit of not wanting to cooperate, especially when their ambient temperature is in excess of 125 degrees.

Future Changes

If you have carefully planned and executed your Apple computer installation, changing, expanding or adding to your setup should now be far easier to accomplish.

Let's look at the areas to be concerned with when it comes time to expand:

Computer furniture - Expansion requirements here generally consist of adding tables or other required platforms. Keep in mind that the structural integrity of the furniture is more important than the looks. Also, peripheral equipment has to be easy to reach.

Power outlets - Plan for additional power outlets. When you expand your setup, you'll simply tap into these outlets.

Accessories - Keep in mind the proper placement of new equipment and other accessories or supplies. Also, follow good electronic practices when laying power / signal cables. And ensure proper ventilation for the new items, especially if the equipment has to be stacked on top of or under your existing setup.

Safeguards

As surely as the sun rises, cats meow and computers compute, you will come face to face with the unthinkable. In fact, think of this as "The Day After," but in a more computer-oriented sense. In this light, the following caveats cannot be repeated often enough:

1. **Always have complete and accurate receipts** and records of model and serial number, date of purchase and replacement costs for every piece of computer hardware and software.

The effort you spend compiling accurate data regarding dates, prices paid and other individual data on your Apple is small compared to the time, lost data, worry and money involved should you have to prove a purchase or verify a serial number at some future date.

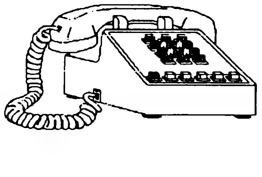
2. **Make many copies of this data,** keep it up-to-date and store one copy at the microcomputer site, another elsewhere in your home and a third copy at your bank or other safe-storage facility.

3. **Do not store this data only in a computer file!**

4. **If you ever generate important computer-based data,** especially if the data is critical to your home life, always make sufficient backup copies and store them as you would the above non-computer-generated data.

5. **Handle the micro setup, accessories and disks as if they were the last ones in the world.** You don't have to go overboard, but if carefully treated, the system and its data should last longer than your car.

In fact, following the above steps may well be the only thing more important to your computer than your subscription to *The Australian Apple Review.*

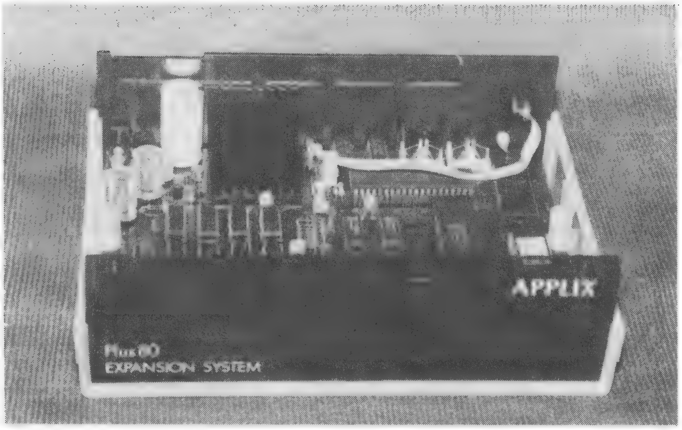


SATURDAY COMPUTER SERVICES

MAIL ORDER LIST

HARDWARE SPECIALS

APPLIX - CP/M FOR THE APPLE



Applix Plus 80 Expansion System, as reviewed in *Australian Apple Review,* July 1985.Gives a simple, efficient solution to a lack of CP/M on a IIe or IIc, without the need to pull the computer apart.
Excellent local product, supplied with utilities software.
Purchasers obtain 12 months subscription to *Australian Apple Review,* free of cost, with each purchase.

64K RAM	**$499**
64K and CP/M	**$625**
26KK and CP/M	**$765**

Comparison of Applix CP/M and Cirteck CP/M

Feature	**Cirtek**	**Applix**
easy installation	NO	YES
extra RAM	NO	YES
keyboard enhancement	NO	YES
utilities software	NO	YES
parallel printer port	NO	YES
pages in manual	4	74
local product	NO	YES
cost	$299	$499-$775

3.5 inch disk storage boxes	**$25**
5.25 inch disk storage boxes (100)	**$35**
Copy holders - a must for the office or when entering data or text into the computer from sheets of paper. Stylish, swinging arm allows you to position the holder at the right level for your eyes	**$55**

I can highly recommend Saturday Computer Services and the products advertised in their catalogs.

Gareth Powell

SATURDAY COMPUTER SERVICES

TOP SELLERS

EDUCATION :

DINOSAUR DIG

Two disk learning game comes with keyboard overlays.Reviewed Mar.AAR.

39.95

COMMUNICATIONS :

TERMINAPPLE

Written by our local Paul Zabrs, this program is widely acclaimed as the best communications software around.

125.50

UTILITIES :

PRINT SHOP

Simple to use yet amazingly powerful - a must for anyone with a dot matrix printer. Reviewed Jan|Feb AAR.

74.95

GAMES :

CHAMPIONSHIP LODERUNNER

Only for the experienced Lode Runner or Jumpman addict. Excitement plus! Reviewed Apr|May AAR.

49.95

BOOKS :

INSIDE THE APPLE IIe

A book which will be used more than the manuals. Reviewed March AAR.

37.95

MACPAINT - DRAWING, DRAFTING, DESIGN

This book is a must for those with a Mac and a graphics application. Excellent! Reviewed Apr|May AAR.

31.50

STRATEGY :

CARRIERS AT WAR

War gaming at its most realistic. Huge dimensions. Variably complex. A must for war game enthusiasts!

49.95

BOOKS

BASIC BUSINESS APPLICATION PROGRAMMING FOR APPLE IIc

A good book to introduce the business person to a little BASIC.

32.45

INSIDE THE APPLE IIe

This book will be used more than the manuals. Reviewed March AAR.

37.95

GETTING STARTED WITH LOGO

Training manual of 20 lessons. 64 blackline masters and five Logo posters make this an ideal package for the class with an Apple running Logo.

49.95

MACPAINT - DRAWING, DRAFTING, DESIGN

A must for those with a Mac and graphics application. See Apr AAR.

32.95

MACINTOSH MICROSOFT BASIC

Combined tutorial and reference manual. Very thorough. See July AAR

34.50

THE APPLE IIc BOOK

270 pages of basic information on the IIc - from Applesoft, DOS and ProDOS, to software applications.

15.95

THE BANK ST. WRITER BOOK

For those who have the program and want more ideas for use with kids.

35.95

THE WHOLE EARTH SOFTWARE CATALOG

Plenty of programs for IBM + Apple reviewed along with good ideas and assorted info. Reviewed May AAR.

19.95

BUSINESS AND PERSONAL DEVELOPMENT

CAREER PLANNING

Identify career paths to steer yourself along. Solid program.

79.95 dBASE II

The database the professionals use to get everything into order.

599.00

DELEGATION TIME AND TASKS

The how-to of critical time planning. Good for managers + bosses.

79.95

MICROSPEEDREAD

Approaches speed reading as an information gathering process.

99.95

MULTIPLAN

Microsoft's spreadsheet program. CP/M or DOS. (Please specify)

220.00

MULTIPLAN BUDGET

MULTIPLAN FINANCIAL STATEMENT

Spreadsheet generators to work with MULTIPLAN.

140.00 each

PEOPLE MANAGEMENT

Leadership styles and strategies explored.

79.95 PERFECT CALC

Leaves the other calcs behind in power and ease of use. Value at

325.00 PERFECT FILER

The filing|database program that complements the other PERFECTS.

295.00

PERFECT LIBRARY

Perfect Writer, Perfect Calc + Perfect Filer. Great value package

795.00

PERFECT LINK

Communications program with auto dialling and logon.

169.00

PERFECT PACK

Perfect Writer and Perfect Filer together. Great for starters.

555.00

PERFECT WRITER

The perfect piece of software for WP. Includes Speller + Thesaurus

345.00

PERSONAL DEVELOPMENT

Identify good managerial qualities and develop your personality.

79.95

PROBLEM SOLVING STRESS + CONF.

Guide for problem identification and solution. Managerial software.

79.95

SATURDAY COMPUTER SERVICES

SPELLSTAR
Reads your Wordstar files to find typos. Add your own dictionaries.
377.00

TERMINAPPLE
Written by local Paul Zabrs this program is widely acclaimed as the best communication software around
125.50

WORDSTAR
The WP program everyone talks about. Complex but powerful.
595.00

WORDSTAR PROFESSIONAL
More power for more dollars!
795.00

EDUCATION AND EDUCATIONAL GAMES

BANK STREET SPELLER
The companion to Bank St Writer for people who can't spell!
104.95

BANK STREET WRITER
Perfect WP for children. Combines ease of use with power.
104.95

BOPPIE'S GREAT WORD CHASE
A game and an educational experience blended in 8 levels of word difficulty. Eat letters to spell words instead of dots. Challenging software.
39.95

COMPUTER TUTOR
- SENTENCE CONSTRUCTION or MATHS
Great programs for kids or adults who want to learn. Each program
69.95

COMPUTER TUTOR
- SENTENCE CONSTRUCTION or MATHS
Great programs for kids or adults who want to learn. Each program
69.95

DINOSAUR DIG
Unearth the mysteries of the prehistoric and learn about dinos!
39.95

DML EDUCATIONAL SERVICES FOR 4-8 YEAR OLDS
Each disk has 6 activities or games that teach with dazzling graphics or games.
39.95 each.

Animal Photo Fun - Meet the Animals, Odd One Out, Photo Safari, Animal Mom Match, Animal Rummy 1, Animal Rummy 2.
Comparison Kitchen - Cookie Hunt, Bake Shop, Which is Less, Same or Different, Bake Off 1, Bake Off 2.
Fish Scales - Fish Jump, Today's Catch, Look and Hook, Which Fish, Fishing Dock, Fishing Derby.
Alphabet Circus - Alphabet Circus, Meet the Circus, Alphabet Parade, Secret Letter, Juggler, Marquee Maker.
Number Farm - Number Farm, Old MacDonald, Hen House, Animal Quackers, Horseshoes, Crop Count.Shape and Color Rodeo - Color Mix and Match 1, Color Mix and Match 2, Rope Trick, Shape Roundup, Cowhand Brand, Rodeo Flags.

EUREKA MATHMASTER 1 or 2
Mathematics activities for 5 to 7 year old set. Local product.
39.95

MASTER TYPE
Learn typing while you play. There's action plus all the way!
69.95

MATH BLASTER
Mathematics with a difference for primary school children.
89.95

ONE WORLD
Socio-economic data base of the countries of the world. Extensive.
129.00

PRINT SHOP
The graphics and printing utility everyone raves about. See Feb AAR.
74.95

SUCCESS WITH MATH SERIES
Addition and Subtraction
Multiplication and Division
Fractions: Addition and Subtractn.
Fractions: Multip. and Division
Decimals: Addition and Subtraction
Decimals: Multip. and Division
Linear Equations
Quadratic Equations
29.95 each

GAMES - ARCADE, ADVENTURE AND STRATEGY

ARCADE MACHINE
Powerful software to develop your own arcade games. Excellent!
92.95

BRIDGE MADE EASY
Fantastic bridge tutor - manual is over 140 pages long!
69.95

CARRIERS AT WAR
War gaming at its most realistic. Huge dimensions. Variably complex.
49.95

CHAMPIONSHIP LODE RUNNER
A game you can't put down. Addiction is unfortunate side effect.
49.95

FAX
Education or arcade? Difficult to tell with this trivia game.
39.95

FLIGHT SIMULATOR II
The only thing better is a real airplane. Dogfight is superb!
89.95

JUMPMAN
Super fast arcade game with 30 different screens to play!!
39.95

LODE RUNNER
The original game. Build up your strength for Championship play!
49.95

MURDER BY THE DOZEN
12 murders to test the deductive logic of up to four players.
39.95

PATHWORDS
Letter-word game for the family. Good for those rainy evenings.
39.95

SATURDAY COMPUTER SERVICES

PITSTOP II
Car racing arcade game. Speed without fear of the 'booze bus'.
39.95

REACH FOR THE STARS
Colony formation, defence and battle in this highly detailed game.
45.50

RINGS OF SATURN
Arcade game where you race against the clock (and aliens).
59.95

SAND OF EGYPT
Adventure through the sand storms.
44.95

SARGON III
The most powerful chess program for the Apple. 9 levels of play. Explanations, strategy developed.
74.95

SUMMER GAMES
Win more gold than our boys and girls without even leaving home!
39.95

WIZARDRY
The first scenario. This is where your character is born and tested.
79.95

ZORK I, II or III
The underground empire awaits you in this adventure cult trilogy.
59.95 each.

If you know it exists but don't see it in the catalog, remember that this is just a small selection of the programs/books/hardware we have available for mail order. Please WRITE concerning any title and we will reply by return post.

All prices include sales tax.
Prices above are subject to change without notice.

ORDER FORM

Postage and packing on each item : please add
1.25 for software
1.50 per box blank disks
2.50 per book
3.75 for hardware listed

Please apply for bulk rates.
Orders greater than $475 obtain a FREE subscription to AAR for 1 year, or FREE postage and packing.

Please list each item that you require, then add your name and address and post together with cheque or Bankcard number to :

SATURDAY C.S., P.O. BOX 189, ST PAULS POST OFFICE,
RANDWICK NSW, 2031
(02) 398 5699

NAME .... ITEM COST
ADDRESS..................... ....
....
....
....
....

Payment * Cheque enclosed .... Add pßp ________
or * Bankcard
TOTAL ....

....
bankcard ≤ expiry date signature

DON'T PANIC!

The Hitchhiker's Guide to the Galaxy

by Gary Makin

The Hitchhiker's Guide To The Galaxy is Infocom's newest interactive fiction offering, and is definitely their most mind-boggling. Like all Infocom games, it is a text-only adventure of the highest quality. Generous lashings of humour and clever puzzles combine to make the Guide an extremely enjoyable and, at times, an extremely frustrating game.

It was co-written by Douglas "mostly harmless" Adams and Steven Meretzky (who is responsible for Infocom's *Planetfall* and *Sorcerer*). Adams thought the Guide would make a good setting for an adventure game and approached Infocom about a joint venture. The result is excellent.

At the outset you play the part of Arthur Dent, an ape descendant whose house is about to be demolished to make way for a new bypass. Soon afterwards, the Earth is demolished for the same reason. Fortunately, your friend Ford Prefect knows all about hitchhiking around the galaxy and the two of you are soon safely aboard a space ship. Unfortunately, you are soon thrown out of this ship, into open space to die.

From here your adventures get even weirder as you get rescued by Ford's semi-cousin Zaphod Beeblebrox, ex-President of the Galaxy, who has two heads and three arms, and Trillian, a rather nice girl Arthur once met at a party in Islington. You visit places such as the inside of Arthur's brain and the lair of the Ravenous Bugblatter Beast of Traal (a mind-bogglingly stupid animal, it assumes that if you can't see it, it can't see you).

For anyone who has read the books, listened to the radio programmes, etc, events unfold in a familiar pattern, at least at the start. However, do not assume everything is the same as the book. Some events are very different. At least one puzzle requires you to prevent something occurring that happens in the book.

To help you get through the game Ford lends you his copy of *The Hitchhiker's Guide To The Galaxy,* a sort of electronic book. It has the words "DON'T PANIC" inscribed in large friendly letters on the cover and is the second most useful object any interstellar hitchhiker can carry with him. It can tell you a lot of helpful information about the game. Take Ford's advice and consult it often, even about the most unlikely objects or ideas.

Unlike a lot of games, most of the problems presented aren't trying to work out what to do but how to do it. During the game you will find yourself playing the part of Zaphod Beeblebrox at the unveiling of the new infinite improbability drive ship, the Heart of Gold.

The aim here is to steal the ship, with the help of Trillian. Unfortunately, there are some armed guards who will try to stop you. You know you worked out a plan with Trillian the night before but you can't remember a word of it. Luckily, it's a fairly simple plan.

The *Hitchhiker's* parser (the part of the program that interprets what you type in) is the most sophisticated I have seen. It understands over 800 words and a large number of sentence structures. It can even answer questions like "WHAT IS THE OBJECT OF THE GAME?" (to which the game responds "That's for me to know and for you to find out." I've finished and I still don't know.)

There is a lot of humour in *Hitchhiker's.* Events take silly courses, the program won't let you do what you want, and there are many funny entries in the guide. Even after you've finished, you can go back and try out a lot of silly ideas, such as going to the pub and getting drunk (this works best when you are Ford Prefect).

About the only disappointment with *Hitchhiker's* is that there are no Vogon's grandmothers to feed to the Ravenous Bugblatter Beast of Traal.

The *Hitchhiker's Guide to the Galaxy* is one of the best and most original adventures I have seen (since Planetfall) and is definitely worth getting hold of. I'm eagerly awaiting the sequel, which should be set on Magrathea, taking over from where this game leaves off.

The *Hitchhiker's Guide* is distributed by Imagineering.

One final note : Let your house get demolished at least once. The results are hilarious.

Making Appleworks earn its living as an integrated program

In a recent issue we reviewed Appleworks and we said you cannot adjust the columns in the spreadsheet section. Wrong. You can. If all else fails read the instructions. But, we protest valiantly, this is not as transparently clear as it might be. We also said that soon we would be able to use Appleworks with a one megabyte memory. Wrong again. You can already do this with *Plus-Works*. Here we explain how.

APPLEWORKS IS a great program. But, it eats up memory and the more RAM you have in your machine the better the program will work. But only if it is accessible RAM.

Obviously, Apple will eventually release their own version of the program that will allow you to use the full one megabyte of memory which will be on their new board when it is released in Australia. As it has not yet arrived on these sunburnt shores we can all expect it Real Soon Now.

Until that happy day there is another way of coping with the situation.

That is to use a program called *Plusworks* which is distributed by Techflow in Australia but is written in New York City - appropriately called The Big Apple - by Norwich Data services whom we have mentioned before.

What the programs - there are three for different purposes - do is modify the start-up disk for *Appleworks* so that it will let you do one of three things.

The first, and most important from our point of view, allows you to use a suitable one megabyte RAM card - it works with most of those commercially available - which allows you to play around with the startling number of 4,200 records on the database at once. If you think that is too many, consider that on one of our own databases - and we are not a large company - we have more than 8,000 entries which we need to work with and manipulate.

The program, apart from allowing you to use one megabyte, will also apparently, although we have not tested this, function, allow *Appleworks* to run on a standard Apple II or a II+. This appears to be a very neat trick indeed and converts *Appleworks* into a truly commercial and worthwhile oprogram.

This particular version of *Plus Works* is *Plus Works XM* and costs something under $80.

There is also a *Plus Works XMP* which works with an extended Z80 card with the usual additional 64K of Random Access Memory.

With this version you end up with a working desktop of 72K which may be more than sufficient for your purposes. Note that this only works with a Z80 card which has the additional 64K of memory - not with an ordinary Z80 card which gives you CP/M but not the extra memory.

Price for this add-in program - a new phrase we have just invented - is also under $80.

Finally, there is the standard *Plus Works* which allows II and II+ owners to use *Appleworks* but with very little memory to play around with.

In truth, there is little point, from our limited point of view, in using *Appleworks* unless you have a great slab of memory which can become your desktop. It is quite possibly true that we are looking at it from our own parochial point of view but we believe *Appleworks* gets into its own with big memory.

How well do these programs work?

We fanged them off to the redoubtable Keith Harrison who ran them through his assortment of Apple computers which he insists are all there for business reasons. He was quite ecstatic about *Plus Works XM* because it worked with a one megabyte card of uncertain parentage and even less certain vintage. It made *AppleWorks* into the total business package it is intended to be. From his point of view the add-in package is worth every cent.

The *XMP* package he could only get to work with one specific Z80 + 64K of memory card but he did manage to get it up and running on a II+. He points out the amount of usable memory you then get is exactly equivalent to that available with standard *AppleWorks* on a IIe machine with the expanded memory.

He, like us, believes that the 72K desktop is workable but not over generous. *Appleworks* was undoubtedly written with a far greater memory in mind and on the one megabyte RAM card version it becomes a totally different animal altogether, challenging any of the totally integrated programs available for the IBM.

The greatest plus in this series of programs is that they fit into the standard *Appleworks* start-up disk. Which neatly avoids the problems of multiple disk swapping. We understand Norwich in New York are currently working on yet another add-on program for *Appleworks* which will allow the use of a dictionary and a thesaurus in the word processing mode and improves the range of graphing options.

We look forward with interest to its arrival.

For further information on the *Plus Works* programs, ring TECHFLOW, 047-58-6924.

The Worm in the Apple

THIS WORM hears of the strangest stories from all over. The latest is that when the Macintosh improvements are announced in January the basic central processing units will be the Motorola 68020.

We all know this is a definite improvement on the standard Motorola 68000 because it is a true 32 bit chip wereas the current 68000 is only a 32 - 16 chip.

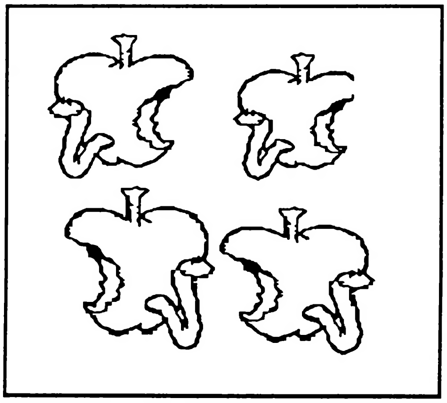
The amazing news is that Apple is already experimenting with using the parallel processing capabilities of that chip. In theory, as mentioned elsewhere in this magazine, the 68020 can run eight chips in parallel.

If Macintosh were to do this Apple would have the fastest personal computer in the world today - by a margin of an order of magnitude.

This is not all pie in the sky.

My informant in Cupertino - the place from which all blessings flow - is called Aloysius P. Worm, III. He tells me although the machine is not fully operational such an animal is being experimented on in the laboratories even as we speak.

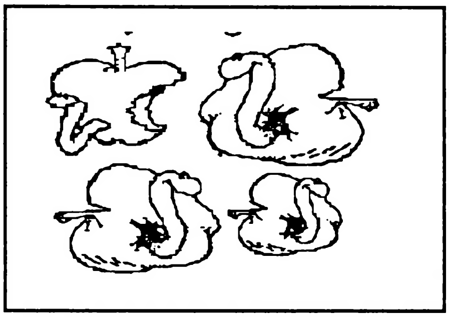
The way in which we will get to learn about it will be when the euphoniously named Delbert Yocam will tell all in a interview to one of the smaller American computer magazines and then six months later, with much blowing of trumpets, we will be told officially.



This is the most exciting news that has come out of Apple in a very long time. If they are going to produce such a magnificent machine they are going to give IBM very serious competition indeed in the market place.

Technically, it is extremely difficult to manage this neat trick because each task going into the machine has to be apportioned to each of the central processing units.

But it is possible because it is known that IBM are trying to do this with their new RP3 experimental machine.



It would be lovely and marvellous and inspiring for this Worm if Macintosh beat Big Blue to the draw.

◆◆◆◆

If at first you don't succeed, try and do it again. And you probably won't succeed again. This appears to be the philosophy of the *Business Review Weekly* publishers.

First of all they took over the faltering *Today's Computer* - which was in such desperate straits that they published articles by the publisher of this magazine, and more desperate than that you can not get - and now they have decided to come back into the personal computing market.

Their new magazine is directed only to IBM PC users and they are going to give away 15,000 copies for nothing.

This is understandable.

I can hardly see anybody wanting to buy yet another PC magazine.

On the last page of the first issue - not to be confused with the first page of the last issue which we may well see bye and bye - they have an editorial comment.

I can't remember the name of theperson who wrote it, but plainly he is suffering very badly from a new disease called Macphobia.

He wastes a full page of the magazine explaining why he thinks the Macintosh is a rotten machine and why he thinks it will eventually disappear.

Now if that is the standard of editorial that we are going to see in this new PC magazine then I am able, with some considerable confidence, to forecast its early demise.

Apart from the fact that the man is totally wrong - he is also extremely rude. That sort of journalism may have its place in the *National Inquirer* or even one of Melbourne's sadly sordid sheets. But it has no place in a magazine which has pretensions to authority and respectability.

One trusts Apple is not advertising in the magazine. One trusts that IBM also has the taste to stay away.

◆◆◆◆

I am seriously contemplating starting a Worm Software Society. The idea would be that we would get together and protest outside Parliament every time we bought software which simply did not work.

The latest example that I have come a across is one called*Quartet* which is produced by a company in America called Haba.

Some weeks ago a newspaper in Australia wanted to run a supplement on computers and as part of the supplement they wished to use a spreadsheet as an illustration.

They got hold of a copy of Haba *Quartet,* wrote a long extensive spreadsheet and then told the LaserWriter printer to print it out. The printer sat there sullen and mute.

Not a word appeared.

In desperate urgency the distributor was contacted and asked to print out the offending page. He could not do it either.

Only the LaserWriter, you understand. The Imagewriter would print it quite satisfactorily. But a LaserWriter printout was needed.

And yet this software has been sold to the Australian public for some months now at a price not a million miles away from three hundred dollars.

This is but one example of many.

I am getting extremely irate in seeing non-stop campaigns in the press against piracy of software.

We are not seeing non-stop campaigns fighting against piracy of customers' money by producing programs which are full of bugs.

Some IBM owners have just been clobbered with bugs in *Symphony* and I can cite at least another twenty examples.

If this was any other trade the people concerned would be hit with a massive series of law suits.

Worms, it is well known, do not go to court.

Worms, it is well known, do not strike software producers around the head and body with a clenched fist.

Worms are, as is well known, mild mannered animals.

But even the worm can turn.

* * *

Hong Kong is a very different market from Australia, as you would all have probably by now guessed.

My cousin, Confucius Worm, has sent me a message which is an amazing story.

Apparently, the distributors of Apple in Hong Kong were not getting the sales they thought they were entitled to. And so they decided to take drastic and immediate steps.

And what were those immediate steps?

Why, they fired all the Apple dealers in Hong Kong in one fell swoop.

In truth, I understand that one managed to retain a tenuous hold on his dealership. But even he is not looking too happy.

Apple have decided to follow the lead every other computer distributor in Hong Kong and go direct to the custormer.

The interesting point about this is this fact has been known in Hong Kong for more years than Confucious Worm cares to remember.

Because the market is different it requires a different approach.

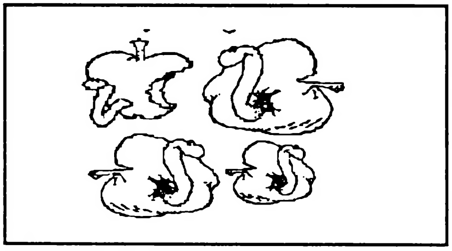
IBM understood this, Honeywell understood this, Apricot understood this. Indeed, only one company did not understand it - Apple.

This is probably because the marketing people skulking in their dark and dingy dens in Cupertino work on the basis that the world ends in Hawaii.

Now they have got off their fat bums and opened an office in Hong Kong they have realised that the people there are different.

They are smaller, they talk a different language, they eat different food.

And they don't buy business computers from shops. They buy them direct from the dealers.



And so, at long last, the decision has been made.

One wonders whether it would be a good idea if John Sculley, our forthright, upright and downright leader, were to insist all Apple excutives, in their own time and and with their own money, make a world trip.

Then we will stop seeing publicity letters from Cupertino, which are addressed, I promise you, to Hong Kong, Japan.

* * *

We may even get the Apple legal department to get their act together and stop the new fake Apple IIe's which are being sold in the notorious Golden Supermarket in Shamshuipo in Hong Kong.

Their track record in this area so far can be best be described as abysmal.

It is a frightening thought, but nearly all of the legal action that has been taken in Hong Kong has come through the efforts of Jodee Rich who runs Imagineering with any amount of flair and success.

I have heard him on the subject of Apple's legal efforts in Hong Kong - and it is sad to see such a well brought up, well mannered person using such strong language.

Almost single handedly he has started the war against the pirates and made it work.

He is doing what Apple should have done five years ago.

They have, it is true, started to do it now.

But not at any great speed.

And not with any great efficiency

* * *

This is a daft question and no doubt is going to get a daft answer.

It concerns the labels on the disks for the Macintosh. These appear to have been welded on.

If, like me, you occasionally wish to change the label on your disk, you are in fairly serious trouble.

You cannot peel them off with your fingernails.

Worms of course do not have fingernails but if they had they would not be able to do it.

You cannot scrape them off with a razor blade - I have a very nasty wound to show it is impossible.

As far as I can ascertain, the only way of getting any sort of a result is to soak them off gently using petrol.

This does not appear to me to be the best idea in the world as, although Worms as a *genera* don't smoke, petrol is a fairly dangerous substance.

If petrol or noxious fumes were to get onto the disk itself I am fairly sure that severe damage would result.

What then is the answer?

I truly would like to know.

Anybody who can send me a suggestion will be rewarded with a Worm's eternal gratitude.

* * *

This Worm has just had the strange experience of having breakfast with a man who was once a very senior person indeed in Cupertino. Why he should have wanted to have breakfast with a Worm is something we can all ponder upon at our leisure.

Amongst the fascinating tit bits that came from his bearded lips was the fact that he was under the impression Wozniak was not getting his full and proper credit as the designer and genius of the Apple II. He kept referring to him as the Thomas Alva Edison of Cupertino. I cannot see how anyone has ever thought otherwise. While I am perfectly willing to concede that Jobs supplied the charisma and chutzpah, I have always realised that the principal genius in residence has been the bearded and brilliant Wozniak - or Rocky Clarke as he was once known in another existence.

It was he that conceived of the single sided mother board - perhaps the greatest single invention in the history of personal computing - and he it was that designed the disk operating system almost literally overnight. There is no doubt in my mind that the Woz is the authentic article - a pure unalloyed genius in the style of Charles Babbage, Thomas Alva Edison or Land.

The fact that he is not still at Apple is a a source of sadness to all of us worms who have ever been charter members of the Wozniak fan club.

* * *

As a Worm I have much experience in obfuscation and non-pellucid prose. After all, I have been exposed to many a printer manual written in the full glory of Japlish. But they are as Chapman's *Homer* compared to the convoluted gibberish currently appearing in manuals published by Apple for the Macintosh in all its myriad forms.

Stout Cortez himself would quail at the prospect of trying to understand the instructions that accompany, for example, *The Switcher*. It is, in a word, incomprehensible. It is, and I choose my words with the greatest care, worse than a press release from the Brisbane office of Burson and Marsteller, Apple's public relations consultants.

Why should this be?

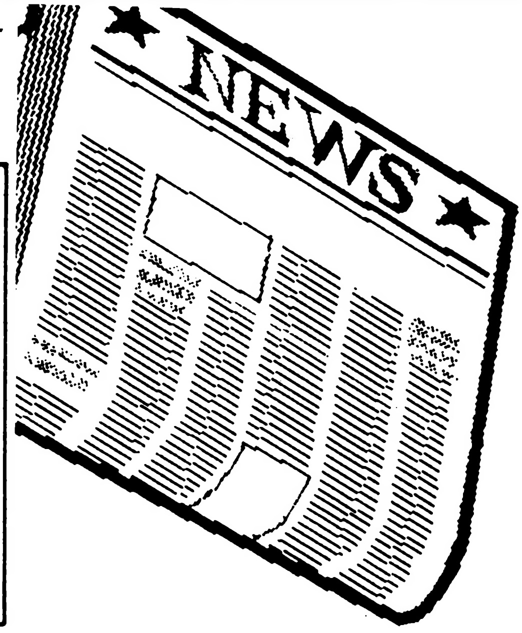
The theory has been advanced that this is a deep laid Communist plot to undermine the free world as we know it. Surely this cannot be so. Even the Russians could think of more English sounding names than Delbert "Deep Throat" Yocam or Inge Fuglestved.

No, what has happened is that John Sculley has brought in to the organisation another ex-Pepsi employee - this time the man who was in charge of writing the instructions for opening the bottles.

How else can one explain the sudden and desperate deterioration in the standards of writing in what had once been the best computer manuals in the world?

No comment is expected or, indeed, required.

Dealer Directory



COME TO THE BRISBANE EXPERTS FOR
apple computer
Authorised Dealer
Obligation free personal advice for:
FAMILIES - EDUCATION BUSINESS.
Come in and have a demonstration in our showroom.
OPEN SATURDAY MORNINGS
computer CITY
82 Bennetts Rd., Camp Hill
PH. 398 6571 - 398 6759

Computer Age
97 Stirling Hwy,
Nedlands WA 6099
Phone: (09) 389 1122

APPLE SPECIALISTS
We stock the entire Apple range
IIe, IIc, III, Macintosh, Lisa
Also 3 ½" & 5" disks, paper
magazines, books, storage
boxes, range of software

COMPUTER CLASSES

Kent Electronics & Keyboards
42 Stuart Hwy,
Darwin, NT 5790
Phone: (089) 81 4755
Authorised Apple & Epson Dealer
Corvus Disk Systems & all Computer Supplies

MAGBOLO
MAGNETIC MEDIA AND ACCESSORIES
Turning prices upside down
XIDEX
Xidex floppy disks, Cassettes,
Printer Ribbons, Disk storage boxes,
Computer paper, etc
CHEAPEST PRICES AROUND
Sydney (02) 456 2518
Wollongong (042) 61 2307

An advertisement this size in the DEALER DIRECTORY costs only $45 per issue or $35 for more than one issue.

Many of our readers ring us up to find out where they can buy Apple software and hardware.

Let them know where you are and what you have to offer.

Phone Tina or Brenda on 398 5111 to book a space.

When you can't afford mistakes.

There really is a difference in diskette brands.

It's in the way they are made.

Because the computer industry cannot afford variation in the quality of diskettes, at Nashua we looked for, and found a way to ensure absolute consistency.

Here's how we do it.

Quality Circles.

At Nashua we've found the best way to attain this 'consistency' is to ensure that at each stage of production our diskettes are statistically checked to make sure the quality is 'built-in' every step of the way.

Rather than long production lines, we have 'Quality Circles' – small groups of people whose job it is to make sure that each Nashua diskette is right in the first place.

The result is a diskette with such consistency, that it is chosen by those people who can't afford mistakes.

Phone Sydney 958 2044, Canberra 47 0511, Melbourne 428 0501, Brisbane 369 4244, Adelaide 42 0021, Perth 328 1888, Darwin 81 6204, Auckland 77 5468, Wellington 85 1965, Christchurch/Dunedin Whitcoulls Ltd, PNG 25 6766.

Nashua

There really is a difference.

Ruwald & Skinner 402 NA/A